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Accounting and Industry

Development of Sound Accounting Practice is Fundamental to the Growth of Manufacture in China

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Why doesn't manufacture thrive in China? Chinese merchants undersell the world. Chinese artisans fashion the most delicate patterns on the market. Chinese labor so outworks or underbids the man power of every other country that it is forbidden entrance everywhere. Raw materials, man power, mechanical skill, marketing ability, all are here. Why doesn't manufacture thrive?

Is there no market? China imports annually five million taels of leather goods, twenty million of iron and steel in various forms and 150 million taels of cotton goods. These goods are merely the product of raw materials, and labor directed intelligently through known processes. Not one of these factors is missing in China. Why are they not set to work?

Perhaps wealth is lacking for the initial investment? If scale of entertaining, rich vestments, number of wives, size of retinue are any mark, there is a wealthy class in China as numerous and as lavish as in many another country much further advanced industrially. No one who has seen the building of residences for Chinese owners in the foreign concessions will doubt the cash power of Chinese. There have been millions for revolutions, millions for monuments, and no doubt there are still millions buried in secret places. Nor is large capital an absolute necessity. In other lands industry began with the small shop. As business grew another machine was added. Then another, and another, all out of the profits from those which preceded. Fifty years ago, the United States was an agricultural country. It has built itself into its present industrial pre-eminence in just this fashion. The same process should produce the same results in China; only faster in China, for profits and man power and market are so much larger.

Perhaps enterprise is wanting? If there is any race more keen to make a dollar than the Chinese, it has failed to advertise its claims. No one who has seen Chinese gamble will urge that they are afraid to take a chance. There is no want of enterprise. Scarcely a week passes that we do not read of some new concern launched by Chinese in Shanghai or Tientsin. No city of importance but can show its foundry, its cotton mill, or what not—deserted; monuments to vanished fortunes and a lost cause—lost temporarily, at least. Here and there all over China are mines modernly equipped and well conceived, but abandoned or reverting to native methods of production. The Peking-Mukden Railway at one time was planned to be a native stock company affair. But the Government had to rescue it. Private enterprise and provincial authority were so keen for the opportunity in railway construction that the old Empire was overthrown because its scheme for a national system of railways stood in the way. Yet the new republic was forced to take over most of these projects, and the rest are failures. So prematurely born were those which were taken over that seven years of nursing find them still unable to stand alone, with one exception. These results are bound to give would-be promoters pause. The Chinese capitalist does not refuse to take a chance but he does refuse to risk his money where there is no chance.

Why do these enterprises fail so unanimously? "Squeeze"? Perhaps. But squeeze doesn't ruin Chinese shops. These thrive on what to westerners look like starvation margins. Why doesn't squeeze strangle shops? Because in the shop the eye of the master is directly upon his employee, and squeeze can be immediately detected if it assumes proportions. Large scale industry fails because the means have not been learned by which the eye of the master is enabled to see far and near and into the obscure corners of a ramified organization. But they can be learned. They have been learned in the case of banks. Chinese banks are not "squeezed" to death. There are numbers of other institutions employing a native staff but under foreign supervision which are highly successful. Chinese railroads have about the lowest operating ration in the world. Westerners are better skilled in the use of the machinery of organization. When Chinese acquire a like skill they will have a like success.

Probably the most fundamental instrument of organization which Chinese industry must learn to employ is accounting. Banks deal in but one commodity—money. Generally speaking if the mere additions and subtractions of this one commodity be verified the property of the organization is protected from "squeeze." An absconder is self-detecting. But in a shoe factory, for example, the commodities number a multitude, and are transformed between additions and subtractions. Whereas, the bank adds taels to taels as they are acquired, and subtracts taels from taels as they are paid out, the shoe factory adds leather and thread and machinery; lubricants, fuel and house rent; labor, stationery and packing cases, from which it subtracts shoes. How can a remainder be found? How can a balance be struck? This is the problem which the foreign manufacturer has solved and the Chinese has not.

The bank clerk who takes his employer's money must run away and hide. His liberty is at stake. His reputation is forfeited. But the manufacturer's employee can take leather or a "commission" on it, accept short weights on purchases, pad the pay roll with relatives, take supplies for his personal use, without any one being the wiser—so far as current methods in Chinese manufacture is concerned. Not even the scale of profits will indicate that anything is the matter—and if it did, only after a period of years. The guilty person is never located, and his only punishment is loss of employment when the enterprise he has betrayed fails. But worse than this, any suspicion can easily be fastened upon an innocent man, especially one who has resisted the wrong-doers, and he has neither armor of protection nor weapon of defense.

As a matter of fact, black dishonesty is not the worst enemy to the success of productive industry. It is these gray practices which can be half concealed, half excused! Acceptance of supplies slightly below specifications, toleration of appointees who do no work, but are supposed to have "influence," management by incompetents who waste labor and supplies, let machines get out of repair, and fail to get the product to a good market—these

are the kind of things which wreck Chinese industries. Through a detailed system of accounts railway managers know approximately how much coal, how much water, how much lubricants a locomotive needs to run a mile. They know about the repair bill should be, how much wages should be paid, how large a load should be hauled. Where the actual results do not conform, where some other railroad or some other portion of the same line does better, they know that something is wrong. Perhaps that "something" is out of their control. If so, it must be endured. But ten times to one it can be counteracted or circumvented, if not corrected. Of the provincial railways in China which so unanimously have failed, the Ministry of Communications in an official document has said that "the principal cause of the failure . . . is lack of proper accounting."

Chinese enterprises have long kept elaborate sets of books which show to the last "cash" the income and out-go of funds. For a business with a rapid turn-over of capital, or one whose entire trade is in money and credits, as a bank, or loaning agencies, this may be sufficient. But modern manufacture requires analysis the same as a railroad. The capital it requires takes forms which should be permanent but which are easily dissipated. Many a promising business has been wrecked by innocent distribution of profits which came out of capital assets. The product of manufacture finds various markets and at various times, so that the cash drawer rarely reflects an accurate picture of profits. Processes are complicated and each step is under the control of a different group of men. A mere final profit or loss never locates responsibility upon the laggard, the waster, the bungler or the squeezer. All of these parasites must be eliminated if production costs are to be kept down. The analyses directed to this purpose are as fundamental and just as technical in nature as the engineering skill required for the operation of a Bessemer furnace, or the construction of a tunnel. If Chinese enterprises are to be successful they must be served by trained accountants as well as by trained engineers, chemists, and other specialists.

Is this class of technical ability at hand? Not in quantities. Institutions of learning must take up the work of remedying this deficiency. Some are already at work. For the larger industries it is quite feasible to hire the necessary talent from abroad. But if industry is to develop naturally, solidly, and in Chinese hands, it should begin in a small way. As a matter of fact it will probably, for some time, be compelled to begin in a small way if at all. "willy nilly." The FAR EASTERN REVIEW has already pointed out that for several years after the war European and American capital will be fully engrossed with the task of repairing the ravages of these years of struggle and getting into movement their own arrested development. Of course, there will always be a few stray adventurous millions to be had for railways and other large purposes. But to finance the hundred thousand smaller affairs that mean the real interior development of the country, other sources must be found. Nor can Japan be looked to for much help. Her present war prosperity will slump as soon as peace is in sight. Her resources are needed at home in large measure, and any remainder which can be spared will be utterly inadequate for any program which should comprehend all China. The river Jordan has not yet freshened the Dead Sea. If Japan develops China it will be with capital produced in China. The question is whether China will build her industries for herself or for the Japanese. Hence the small concern is the inevitable type of Chinese industry at the beginning.

These smaller factories and such cannot afford to pay salaries which foreign accountants must demand. They must rely upon native accountants. These are not entirely lacking. At least there are many young Chinese who have had accounting training to a certain extent. Some of these are foreign-trained students. Others are graduates of institutions in China, which offer courses in accountancy given by foreign teachers. It must be confessed that the mere study of accountancy for a few hours a week during the course of a year or two rarely gives the student much familiarity with the application of the principles which he has studied. He will lack some of that sure swiftness of decision which denotes the experienced hand, who to a thorough grounding in fundamental theory adds a long apprenticeship in actual business. His opinion will scarcely carry the weight which the age as well as the experience of the accountant abroad usually gains for him in countries where accountancy has a recognized

standing. But these young men will gain years and experience if set at work. While their number is few, it is greater than the demand voiced for them at present. And while they are becoming seasoned there is a simple expedient which, if used, will safeguard their work very effectively.

Other countries besides China have the small business, which cannot afford a specialized accountant, but who need his services just the same. Their needs have been met by the institution of the *public accountant*. The public accountant takes a position in the community analogous to that of the lawyer or the physician. Like the physician and the lawyer, during the earlier years of the profession, he was rarely called in unless the business was "sick" or the owners were in trouble. But business men have learned to avoid legal troubles by consulting an attorney in advance of a contemplated act. So also have they learned to avoid financial troubles by consulting a public accountant to analyze their business and to draw up the forms of books to be kept and the rules by which they shall be kept. People have learned to preserve their health by calling upon the physician before they become sick and undergoing a periodical examination so that he may tell them how to keep well. Coming illnesses generally show symptoms to the trained physician long before the patient himself feels any discomfort. It is the same way in business, and the small concern abroad has learned to call in the accountant for a periodical examination of their financial affairs so that business sickness may be prevented in time. Partnerships and corporations have come to place so much confidence in this practice that the rule is well established, and is provided for generally in the articles of association. But whether required or not, no modern management sensitive to the opinions of its neighbors or desiring harmony among its stockholders fails to call in the "business doctor"—the public accountant—for this periodical examination. His certificate is a veritable certificate of business health.

This then is the procedure which, if followed, should give Chinese industry the same protection and the same opportunity for profit as those in foreign countries. It will be assumed that the market, transportation facilities, sources of raw materials and all such technical features have been found sufficiently favorable to warrant the formation of a company. A public accountant should then be called in for consultation. It will be useless to expect that he will be able to hand over ready made a set of books, account forms, vouchers, rules and regulations. Each concern has its own individuality. Special conditions must always be met, and the accountant will need the assistance of the other technical staff in this particular. His advice as to methods of finance should be worth considering. He will be able to suggest careful wording of clauses in charters, mortgages, agreements and similar undertakings. Having outlined the system of accounts the detailed work of keeping them may be left to the regular book-keeper with the understanding that on doubtful points the accountant's advice will be sought. For a short period, rather close supervision should be given the bookkeeper, until he has secured a thorough grasp of fundamental distinctions. After that, a monthly inspection gradually relaxing into an annual inspection of the accounts should be sufficient. No system of accounts is automatic. None is self-enforcing. Decisions are made by individuals, and individual bias, and misunderstanding will color these decisions. The best system of accounts ever devised will degenerate into actual misrepresentation, unless individual interest and error is counteracted by well established professional ethics and the scrutiny of persons who have a knowledge of correct principles of accounting. The only way to establish both the ethics and the knowledge of correct principles among these pioneering Chinese accountants is to call in disinterested professionals who have reputations to maintain, and who shall first prevent mistaken entries from growing into precedents, and second, prevent actual manipulation of the accounts when strong pressure is brought to bear.

So much for new companies. Now as to companies already operating. If such concerns are now making a comfortable profit, it is rather gratuitous to offer any advice. However, these questions may well be asked. Has adequate provision been made for complete replacement of machinery when it has worn out? If a loan should be needed from a strange bank for any purpose such as enlarging the business, are you prepared to make a statement of your profits, turn-over, and property sufficient to

justify such a loan? Has any provision been made for making the rate of dividends regular? Do you know, can you prove, which of your departments, which of your employees, are most valuable to your business? If profits should begin to shrink, could you locate quickly the point of change which caused the shrinking? If prices for your product should fall, how would you proceed to lower the cost of production? Unless the manager of even a paying business can answer these questions satisfactorily to himself and to his stockholders, he should call in an accountant to help him prepare for that inevitable rainy day which sooner or later occurs in the most salubrious commercial climates.

Then there is the business which is failing, or has failed. Most of its problems are as good as solved when its faults are discovered. What are its faults? Does the product miss the best market? Does it deteriorate en route? Do prices discourage consumption to the point that the market is not broad enough for profitable exploitation? Could prices be raised without losing too many sales? Is the grade too good or too bad for its customers? What per cent. is spoiled in making? Whose is the fault? Is "overhead" out of proportion to direct costs? Can "overhead" be lowered? Is labor force working to best advantage? Any failing business that has not received a satisfactory answer to all of these questions and many more like them, should not be content to give up the ghost without a struggle. Stockholders who accept merely the officers' say-so that the business has failed, or will fail without calling in disinterested skilled advice deserve to lose their investments. Officers who try to prevent shareholders from obtaining this information should be locked up. They are *prima facie* criminal.

But all of this is so obvious. Doesn't the mere fact that the Chinese have not followed this procedure, in itself prove that the Chinese are inherently incapable of large scale industry? But is it so obvious? If so, why is it that the course of commercial progress in western countries is marked by the bones of so many failures? Though the corporation has been known as a form of organization for hundreds of years, yet it has been an important factor in commercial life only about three generations. The chartered accountant is not more than a generation old in England. The certified accountant has barely reached recognition in the United States. Cost accounting and efficiency engineering have scarcely been recognized as professions. We who have worked out these methods only after generations of hard knocks should not be surprised that China in her first attempts to wear western clothes gets some misfits.

There are some difficulties faced by Chinese which must be solved in part before they can get the full value from accounting science. An appreciation of these difficulties on the part of foreigners, together with their assistance, will go far toward removing the difficulties.

At present there is no accounting terminology in Chinese. There are general descriptive terms, but these may be applied to any number of different situations. They are not exact. Too much must not be claimed for English in this particular. The layman pays very little attention to the exact meaning of his terms when speaking of such things as *profit*, *capital*, *expense* and many others. He buys a hat for \$2 and sells it for \$3, and says his profit is \$1. You ask him how he pays the freight on these goods and he answers that of course it comes out of his profit. His clerk hire, his store rent, his insurance, likewise come out of his profit, if you follow him up. Then there is the loss on goods which later prove unsalable, the loss on fittings to the shop which he must abandon when his lease expires, and a dozen others of similar nature. Just what is his profit? English accountants have standardized these terms, so that when they speak with each other they do not have to list all of these items which sometimes are included by the layman and sometimes are not. The English business man who employs an accountant knows that these terms are standardized, and that when his profit is declared to be a certain sum, that all of these items have been included, and that he need not fear further deductions of items which have been overlooked. But so far, Chinese terminology has not progressed beyond the layman's custom.

At an early date a convention should be called for the purpose of compiling in Chinese a glossary of accounting terms. The convention should be composed of delegates with some

technical accounting experience, they should be chosen from all important branches of commerce—such as Chambers of Commerce representing trade, the large shipping companies, the textile milling interests, mining companies, ship builders, iron and steel products factories, the government railways, the Ministry of Finance, and any other considerable interest making use of accounts. This gathering should be called probably by the Ministry of Agriculture and Commerce. That organ should carefully work out the program in advance. The convention would be too large for effective work as a whole, hence it should function through committees and these in turn through smaller sub-committees. Reports from these committees should be made to the general convention and end with a resolution to be discussed and finally rejected or adopted by the convention. The accepted work should be registered with the Ministry of Agriculture and Commerce to serve as a reference and model. Whether or no that Ministry formally adopted the definitions and outlines thus drawn up, the fact that they had been so formulated and adopted by the highest accounting skill in the country would be sufficient for the purpose of persons and groups of persons desiring to safeguard their investments by the use of accounts.

No doubt such a convention would mark the beginning of an Accountancy Association or Institute similar to those abroad. Such associations are rather more effective in advancing the technics of the profession than probably any other force. They at once protect and advance the ethics of the profession far beyond the power of government rule. They are more necessary in a new country—professionally new—than in an old one. The fake accountant is more apt to spring up in uncultivated soil than in the carefully weeded gardens of long established usage. The fake accountant is rather more of a danger than the shyster lawyer.

Foreign trade waits on Chinese purchasing power. This purchasing power depends on the development of Chinese industry. Industry will not develop on a large scale until investment funds have an even chance for safety and profit. In the securing of such safety no factor is more important than the development of sound accounting practice. When your bookkeeper or comptadore asks for time to attend a convention such as has been described herein, what will you say?

According to the 1916 vital statistics of Japan the births numbered 1,832,931 and the deaths 1,202,898, the excess of births over deaths being 630,033. This fact inspires the "Far East" to remark that "the nations cannot afford to leave great portions of the earth's surface undeveloped," and suggests that "those countries which have not a sufficient number of inhabitants to cultivate their land must either permit immigration on a large scale or transfer their territory to other nations whose countries are over-populated." As the Editor of the "Far East" is an Englishman, Mr. J. N. Penlington, he no doubt has in mind vacant spaces in Canada and Australia, since he surely would not urge that any others should hand over their territory when his own nation has control of so much that could be used by Oriental peoples. Apropos of emigration Mr. Yusuke Tsurumi, of the Imperial Japanese Railway Board, has an article in the "Taiyo" advocating the Philippines as a good field for the settlement and enterprise of Japanese, especially if the emigrants will engage in cultivation of cocoa, hemp, tobacco and sugar. He urges strict control to prevent unscrupulous people going to the islands, and emphasises the necessity of care being taken not to wound the susceptibilities of Americans. He also warns his people against having any territorial ambitions in the Philippines, or of doing anything to cause foreign nations to misinterpret their motives. Next to the Philippines he suggests the Dutch East Indies as an excellent field, but is a little anxious with regard to both territories lest his fellow countrymen who go there may, as a result of tropical conditions, become as sluggish as most natives are.

We have received from the Statistical Department of the Chinese Maritime Customs Volumes 2 and 3 of the "Returns of Trade and Trade Reports for 1917." These deal with the Central and Yangtze ports, giving details of the trade done during last year, in the thorough manner which has made the Customs publications so valuable to all desirous of information on the commercial aspect of the economic state of China.

Culture and Preparation of Japanese Tea

(By OUR JAPAN CORRESPONDENT.)

The tea season in Japan is only recently over, as far as the picking of tea leaves and the preliminary manufacturing are concerned. Usually the preliminary tea season begins early in May, or in the latter part of April, and ends at the end of May, or early in June. A visit to tea gardens and to preliminary tea manufacturing establishments is an interesting one.



TEA PICKING AT THE BASE OF MOUNT FUJI

The principal tea-producing districts are in Shizuoka prefecture, at the foot of Mt. Fuji, and also in the neighborhood of Uji, near Kyoto. As a casual traveler on a train passes these districts in their season he notices little garden patches on hill slopes and wonders what those straw awnings over the gardens might be. Upon investigation, he will find that they are tea gardens, where tea leaves are protected from the direct rays of the sun which makes them coarse.

The greater portion, in fact nearly all, of the tea exported from Japan is manufactured in Shizuoka prefecture, refined in Shizuoka city, and shipped from Yokohama and the port of Shimizu, near Shizuoka. But the really characteristic Japanese green tea is manufactured in Uji districts, near Kyoto—the tea which the orthodox tea drinkers in Japan like to drink. Upon a fine May morning the writer betook himself from Kyoto to Kobata, an hour's journey by electric train, Kobata being, as he was told, the centre of tea districts in that neighborhood. He was invited without many preliminaries to inspect the tea manufacturing establishment, called the Shohokuen, where he was conducted through the premises by one of the clerks who explained how tea is made.

As the picked tea leaves were brought to the establishment, they were first steamed for a few seconds. A man naked to the waist, sitting by a boiler, handled a sieve quite ingeniously, in which the tea leaves, a little at a time, were steamed over the boiler and passed on to the second stage of manufacturing. There were about 20 girls, who carefully sorted the tea leaves to distinguish spring leaves from fall growth. The tender spring leaves, as they were steamed and selected (the steaming should not be overdone or too little done, in order to make first class drinking tea) were then turned over to 30 odd men who rolled the leaves on stands made of thick paper pasted in manifold layers, which were placed over little charcoal furnaces. The leaves were rolled for from three to four hours at a stretch. Each man working from 3 a.m. to 7 p.m. could repeat the process five times a day. But as only a few leaves were rolled at a time, enough for two hands to roll, the quantity produced could not have been very much, and it was maintained that the company stood for quality rather than for quantity.



THE FIRST PICKING OF TEA LEAVES AT THE TEA PLANTATION OF UJI, A NOTED PLACE IN JAPAN.

There are many different kinds of tea made in Japan. Among the varieties are Hikicha (a kind of green tea), Gyokuro (green), Sencha (green), Koicha (black), Oolong (Formosa), Bancha (green), Hakucha (brick), Matcha (dust), etc. Of these the Gyokuro is the most elaborately manufactured tea of the finest flavor, for orthodox tea toppers exclusively. The Shohokuen workers devote their energy nearly altogether to Gyokuro, so it was said. By far the greatest quantity of tea made in Japan is that of Sencha, followed in order of bulk by the Bancha.



SHOHOKUEN TEA GARDEN.

As the tea leaves for Gyokuro were rolled, they were then turned over to large pans placed over coal furnaces, fired to a very high temperature, in order to dry them. The pans revolved automatically by an electrical device, which by the way was a recent innovation. The leaves thus dried were then turned over to a little mill, where the large rolls and the small were separated. The rolls which were too long were cut into a presentable size. Afterward, the leaves were taken into a hot room to be further dried for completion.

There was also a section in the premises where Tencha, another kind of green tea, was being manufactured in a hot room, as a side line. In this hot room, men worked naked for ten or fifteen minutes at a time, as they find it impossible to remain longer in this temperature.



A FAMILY TEA FACTORY.

A visit to the tea districts is not complete without an inspection of the tea gardens where tea leaves are picked. So the visitor was taken to one of the gardens at a little distance from the manufacturing establishment. The tea picking was nearly over in the latter part of May. But there were 50 or more women, old, middle-aged and young, who appeared to be enjoying their task of picking tea leaves. How they could distinguish spring leaves from fall growth was a wonder, but this they could do while talking to each other about their love affairs or singing songs.

How much do these workers get? Men at the manufacturing plant get Yen 1.50 a day in cash, with room and board, so that it was estimated that their daily income was about Yen 2. Women picking tea leaves or selecting them get 40 to 50 sen, with room and board.

The county of Uji, where the tea-producing districts of Uji are located, was visited by insects last autumn and, as proper protection was not afforded the tea plants, it was estimated that

the yields for this year may amount to but 60 or 70 per cent. of an average year. Roughly estimated, the amount of tea produced will be about Yen 300,000, for the county of Uji.

Shizuoka

In Shizuoka prefecture the tea season was also nearly over, when the representative of the FAR EASTERN REVIEW paid the district a visit. In the neighborhood of Shizuoka city, the picking of tea leaves and manufacturing of them was over towards the end of May. A light railway running for three miles from Shizuoka up the valley of the Abekawa River carried the visitor to a village called Ushizuma, where it was learned that Mr. Hatsumi Ogino, a prosperous industrialist of the village, was still manufacturing tea, and that his plant, small as it was, was a representative plant in the tea-producing districts of Shizuoka prefecture. Mr. Ogino personally conducted the visitor through his plant and explained.



SHOHOKUEN TEA MANUFACTURING PLANT.

In Shizuoka prefecture, unlike the Uji districts, tea is manufactured in a much simpler manner and with more modern improvements introduced. The tea manufactured in Shizuoka prefecture is plain green tea, inferior in quality to that manufactured in the Uji districts from the orthodox point of view. But the bulk of Shizuoka tea is manufactured for export to America and other foreign countries. The tea producers naturally aim at quantity rather than quality.



DRYING TEA.

The tea leaves picked in Ushizuma were not so elaborately selected as in Kobata in Uji. Some of fall leaves were mixed by mistake and they were not carefully separated. A boiler placed over a furnace burning wood produced steam (as well as power) to steam the tea leaves and to turn the little machine for running



TEA SORTING.

out steamed leaves, in such wise that the machine worked automatically and a man was needed only to pour green leaves into the machine, which, as it turned, brushed the steamed leaves off itself to be scattered over a straw mat spread for their reception. This labor-saving device was followed by another for rolling the steamed leaves automatically. In this rolling machine one man only was needed to look after the machine, in which the leaves were being rolled. The drying process was also done by means of a machine, so that in the tea manufacturing plant, or, to be more precise, the barn, half-a-dozen or so men were at work. All the rolling and drying machines were worked with electricity, which was generated in a little plant located in a corner of the barn. Mr. Ogino pointed out that two horse-power of electricity was sufficient to put the whole machinery in motion.

One of the medium-sized rolling machines rolled about 3 *kwamme* (one *kwamme* equals 3.75 kilogrammes), and a larger one about 5 *kwamme*, at a time.



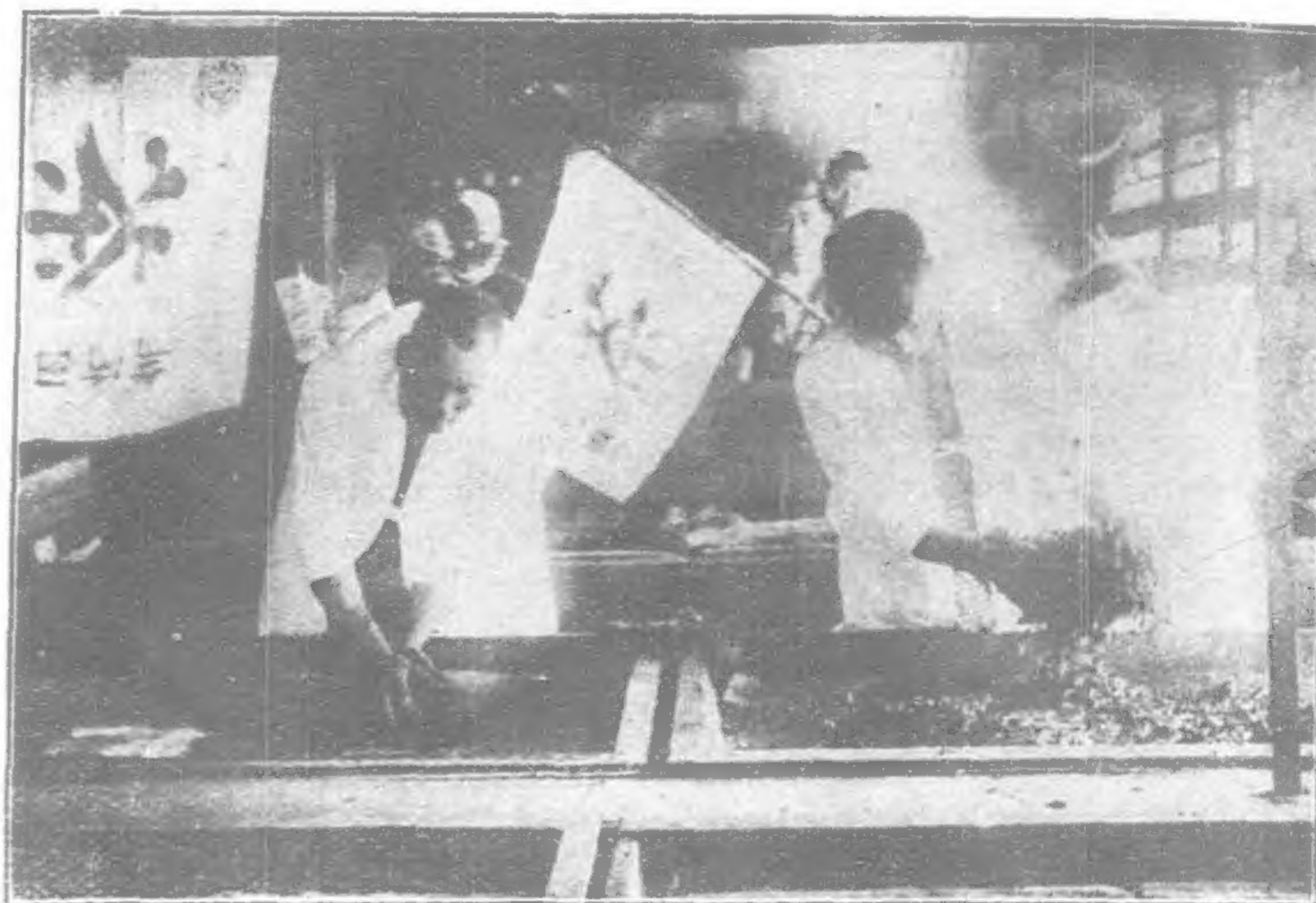
A LARGE TEA FACTORY.

All the villages in the neighborhood of Ushizuma in the Abekawa River valley are tea producing, as are also other villages or towns in the prefecture. Everywhere one walked one could see farm-houses where a tea-manufacturing plant was established at a corner of the estate. Some farmers, who cannot afford to buy a generating plant, were content to roll their tea leaves by hand.

The tea pickers, according to an official of the county Tea Producers' Association, received 50 sen a day with room and board, so that it was estimated that their wages amounted to about a yen a day. The men rolling tea leaves by hand or with machines receive Yen 1.50, and those attending to furnaces or the machines one yen, with room and board.

At the offices of the Shizuoka prefectural Tea Producers' Association, it was learnt that the tea yields this season were slightly larger than the average. The prices rose by 70 or 80 sen per *kwamme*, one *kwamme* of tea being worth about Yen 3. Average farmers who have a tea-producing establishment and an

acre or so of tea gardens can secure a tolerable income during the tea season. Tea leaves are picked three times a year. What is called the tea season applies to the first period of growth, when the leaves are very tender. The second and the third leaves, which are picked at intervals of forty days are coarse and inferior in quality. A *tan* (.245 acre) will yield about 200 *kwamme* of green leaves. One *kwamme* of green leaves is sold for about 45 sen, so that 200 *kwamme* will yield about Yen 90. As an average farmer possesses from 2 to 3 *tans* of garden, his income from green leaves alone should be about Yen 180 to 270. The expenses of turning green leaves into drinking tea are estimated at about 45 sen, which the farmer may save himself if he manufactures tea. The green leaves will greatly reduce in weight after being steamed, rolled and dried. The price of tea is bound to rise if the cost of manufacturing and of living is taken into consideration, and it has risen this year, as we have already noted. But the price which ruled this year, it was observed, was a record-breaking one.



ROLLING TEA.

In Shizuoka, as in several other places in Japan, there are a large number of tea refining mills. The tea manufactured by farmers is collected by the refining mill companies for refining. Not only the products of Shizuoka prefecture, but also products of other prefectures are brought to Shizuoka to be refined and exported abroad from there. About 70 to 80 per cent. of all the tea exported from Japan is exported through Shizuoka.



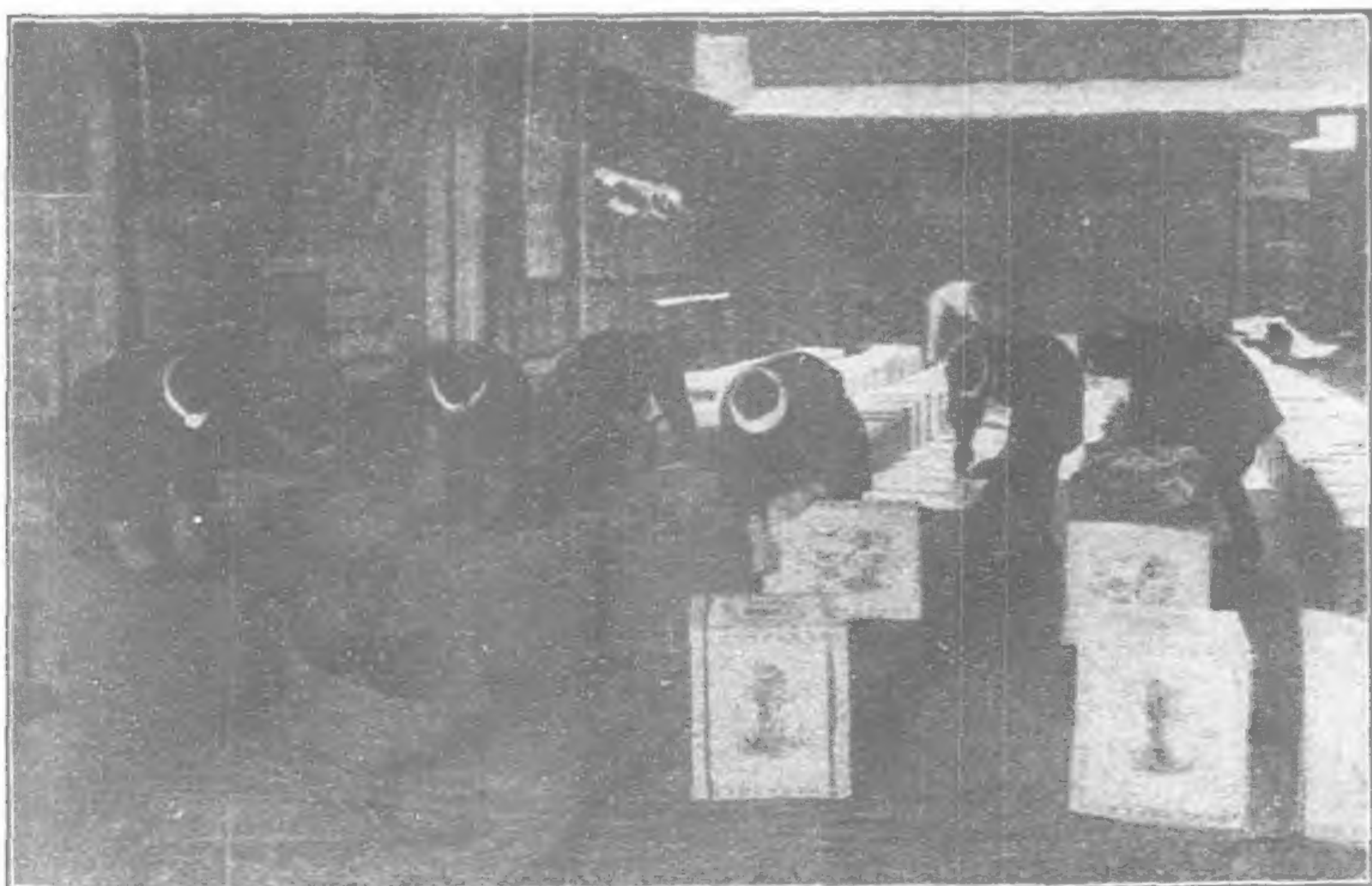
TEA PACKING FOR EXPORT

The latest return upon tea yields in Shizuoka prefecture is estimated by the Tea Producers' Association of the prefecture at 4,710,880 *kwamme*, valued at Yen 10,013,467. To this may be added the tea brought in from other prefectures, to swell the figures. The annual production of tea throughout Japan for the year 1916, is given in a report of the Department of Agriculture and Commerce of the Japanese Government, as 10,183,064 *kwamme*, valued at Yen 16,955,645. These figures increased considerably last year, although the figures for 1917 are not yet available.



SHIZUOKA CITY—A CENTRE OF JAPAN'S TEA TRADE.

The monthly report of the trade returns of the Empire issued for December, 1917, by the Department of Finance, gives the figure of exportation of tea for that year as Yen 21,753,246. This appears a rather extraordinary increase, even compared with the production for 1916, as given by the Department of Agriculture and Commerce. The latter department has not as yet issued its annual report for 1917.



PREPARING CASES OF TEA FOR EXPORT.

The tea-refining industry is a flourishing one in Shizuoka city, conducted in a most up-to-date fashion, using various machinery and scientific devices. Until some few years ago, the industry had been controlled by foreigners. But to-day it is controlled entirely by the Japanese, except in one or two isolated instances, such as the mill owned by Mr. Gottlieb and others. The Japan Tea Trading Company of which Mr. Kahei Otani, the

patriarch of the tea trade in Yokohama, is the president, is, it is said, the representative one of the kind. The tea refining is a very simple process, as far as the essential service done, is concerned; for the object of refining is only to dry and give polish to tea as it is into the mills. But while tea is thus dried and polished it is also sorted and separated into different sizes and qualities and flavors, to suit the requirements of the customers abroad. As tea is thus refined it is packed in lead-lined wooden boxes, covered with a mat and strongly tied for shipment abroad.

While tea refining is controlled by the Japanese, the price of tea for exportation is usually controlled by foreign tea merchants. These foreign merchants has been located in Yokohama until a few years ago but now have their main business establishments in Shizuoka city. There are at least twenty of these foreign tea merchants in that city.



SORTING THE DRIED LEAVES

Tea used to be shipped abroad from Yokohama, but of late years, since the port of Shimizu, near Shizuoka, has been opened as a treaty port, tea has been shipped from Shimizu directly to foreign countries. Shimizu is bound to become a prosperous sea port for foreign trade.

Japan's War Prosperity

According to the investigations of the Hypothec Bank of Japan, the paid-up capital invested in bonds and various industries in Japan during the four years after the outbreak of the European War amounted in all to Yen 2,529,800,078, in detail as follows:

Year	National Bonds	Local Bonds	Company Bonds	Shares	Total
1914 (From Aug.)	—	6,014,300	15,746,000	23,984,220	50,744,520
1915	28,950,000	17,182,600	95,328,000	55,530,682	197,091,282
1916	204,885,000	18,039,788	75,011,400	268,575,074	566,511,262
1917	395,975,000	32,132,500	62,484,000	642,321,114	132,912,614
1918 (To July)	95,500,000	6,240,000	101,270,151	379,530,249	582,540,400
Total	725,110,000	79,609,188	349,839,551	1,375,041,339	2,529,800,078

Motor Boats in South China

Some Practical Results of Enterprise

(BY OUR SOUTH CHINA CORRESPONDENT)

On the China Coast one meets all sorts and conditions of men. There is the slowly disappearing "old China hand," who came out in the days of sailing ships, and who has lived so long in China that he is cheerful by nature, but a pessimist about the Chinese. Perhaps he despairs of them because he really does not know them. Then there is the tourist who is rapidly rushing through the Orient and who has a superficial knowledge of Chinese politics and Chinese curios. There is the Consul, who usually knows a lot and says very little. There are the missionaries, many of whom are sufficiently practical to realize that the one great hope for China is the development of her natural resources.

It was a chance conversation with a missionary during a voyage that set my thoughts on Kwangsi and the West River. He had lived in that province for nearly a quarter of a century and had traveled many, many times up and down the principal waterway. And he had seen the changes that had taken place during the last few years.

As a result of other inquiries the following facts were elicited:—Wuchow, the chief river port in Kwangsi, was opened in 1897 and a small steamer, under the British flag, arrived. It was used only for touring. In about 1903 a Mr. Banker imported to China a kerosene motor and put it in a motor-boat on the West River. He claims that it was actually the first motor sent East of Suez, but it has not been possible to discover whether the claim can be substantiated. The engine had been on exhibition in Europe, but it was not very successful out here. However, Mr. Banker persevered and to-day his firm maintains a service of motor-boats on the West River. He has, however, great confidence in the crude oil engine, which he believes is the form of motor most suitable for transit work on nearly all of the rivers in China.

Some Fuel Costs

The boats on the river beyond Wuchow use engines of from 72 horse-power (the smallest) to 180 horse-power (the largest). Two boats of the same carrying capacity, one using kerosene as a fuel for the engine, and the other using crude-oil for fuel, do the same round trips. Mr. Banker states that he finds that the kerosene engine uses fuel which costs nearly \$600 a trip, while the crude oil for the same trip costs only \$60. As the boats make about 36 trips per annum, the saving in fuel costs by the use of crude oil instead of kerosene is \$21,240 a year. A ratio of practically ten to one in fuel costs between kerosene and crude oil is amazing.

It is, however, practically certain that kerosene as a fuel for motor power is cheaper than coal, and it might even transpire that coal is dearer than petrol. For although there are very great deposits of coal in South China, any used in steamers is imported and comes from Japan or some other place so distant that it costs about \$36 a ton in Canton. And all of the coal used on the waterways of Kwangsi must be carried by water to various stations. The cost of transit is considerable. Bulk for bulk oil gives five or six times the power of coal.

The official estimate of the Chinese Government for the output of the native coal of this province was only 50,000 tons, but Europeans resident in Kwangsi doubt if that figure was even approached in actual fact. Coal, of a second-rate quality, is mined by a Chinese Company which has a depôt at Nanning, but the yearly output is small and does not exceed 10,000 tons. In at least one part of the province coal is dug up in the fields, and used in households. But the immediate problem in Kwangsi is that of communications, and for that purpose oil seems certain of popularity as a source of power.

It is curious that the authorities of the British Royal Navy have not used motor-gunboats for patrol purposes. The old "flat-irons" of H.M.S. *Moorhen* type are clumsy, and the coal bill is prodigious. A resident in Kwangsi estimates that one round trip up from Canton costs about \$5,000 for coal, and the inconvenience to the firemen is a matter which ought to be considered in these humanitarian times. Now that the men of the Royal Navy are accustomed to oil engines in submarines and anti-submarine craft, it is curious that steam engines have not been scrapped for up-river craft. Probably they have in Mesopotamia and other places. But it would seem wise to build river motor-gunboats in Hongkong in order to economize on the fuel bill. Obviously these would be of much smaller dimensions than the steam propelled craft, and they would require fewer men as a crew.

Some five or six years ago the commodore stationed at Hongkong made the round trip up the West River in a motor-boat. He was accompanied by his wife and two naval officers, and it is remembered that he thoroughly enjoyed the trip. He expressed appreciation of the suitability of oil-engines for such traffic; but after all, in these days of stress for the Royal Navy, we must not be surprised if such a small matter is overlooked. But the subject is mentioned because the Chinese authorities themselves might institute such patrol boats. A small gun and two or three Maxims would drive away pirates.

If the Hung Shui Kiang (Red River) is opened up for trade it will need some such protective methods. It runs through a country which is, unfortunately, full of pirates, but a country capable of considerable trade development. At one time the officials of the Standard Oil Co. made the attempt to trade along the river, but they found that the pirates bothered them too much.

The Yunnan Trade

In the old days all of the Yunnan trade found its outlet to the Southern Pacific by means of the West River. But the very clever scheme of the Railway from French Indo-China up into Yunnan deflected the trade. It is suggested that a great trade benefit would follow if a railway were constructed from Posh to Yunnan, for navigation up to Posh by motor-boat is not only possible, but actually takes place.

Some twenty years ago a British consul in Wuchow, named Hosie, suggested that a railway should be constructed between Wuchow and Chungking by way of Kweiling and Kweiyang, the capitals of Kwangsi and Kweichow respectively. Goods which took three months to reach Hongkong would then be delivered in four days.

The trade along the West River and its branches is now of the "Muck and Truck" type. The "good old days" of the whole-sale trade when one cargo consisted entirely of, say, piecegoods are gone. The motor-boats in use generally carry a cargo of about thirty tons deadweight. Boats of that size run in regular service from Wuchow to Nanning and from Nanning to Posh. There are a number of boats on the run. Mr. Banker's firm have twelve altogether, but it is well worthy of note that there are numerous Chinese competitors. The engines of the boats are usually between 100 horse-power and 200 horse-power, but there is a small type of boat using a 72 horse-power engine.

Motor boats run from Wuchow with a cargo capacity of 80 tons. The trip is about 220 miles and the cost for a first class fare is \$15 including food. There is accommodation for steerage passengers, and considerable traffic is done. The other regular motor-boat services are from Wuchow to Sunchow (55 miles) and from Sunchow to Liuchow (180 miles). A large number of

emigrants for Singapore, Batavia and the other places in which the demand for Chinese coolies is considerable leave Kwangsi. It is estimated that about 50,000 go each year.

As is usual in China the pioneers of modern communications in Kwangsi were Anglo-Saxons. The British West River Steamship Co. was formed, and in it were interested the two large steamship Companies of the Chinese Coast, viz., The Indo-China S. S. Co. and the China Navigation S. S. Co. The vessels have, however, been sold to the Chinese, but it seems to the writer very doubtful as to whether they will be able to maintain a service profitably in competition with motor-boats. It is only an estimate, but those steam vessels probably burn six or seven pounds of coal per horse-power hour, while the motor-boats can certainly be run on at least one pound of fuel per horse-power hour.

The day upon which these notes are written is notable in the history of motor-boat development, for in Hongkong there was launched, a few hours ago, a boat 180 feet long by 32 feet beam. She is to be fitted with semi-Diesel crude oil engines, which have just arrived in the Colony from the United States. There are two engines of 240 horse-power and the fuel consumption is estimated at one half a pound per horse-power hour. At the present cost of crude oil that is somewhere in the neighbourhood of one cent per horse-power hour. It may be mentioned that the engines were at first ordered from Great Britain, but as it was found that delivery was impossible for an indefinite period, recourse to the United States was made. This boat will run from Hongkong to Wuchow and back again.

The Japanese are making an effort to obtain the trade of Kwangsi, but Anglo-Saxons are the most popular people in the province amongst those who can be classified as foreigners. The officials are quite friendly and affable and seem willing to encourage trade. There is practically no difficulty concerning "likin" or other impediments. There is, as yet, no evidence of any but the British and the Chinese entering upon the transit trade of the rivers.

There is a noticeable demand for electric light plants and accessories a feature evident in all ports of South China. And in these plants crude oil engines are popular. The reasons are similar to those which obtain for transit work.

It would be ungracious of the writer to fail to acknowledge his indebtedness to Mr. Banker for most of the information concerning this growth of motor boat traffic. There is, of course, keen competition nowadays, but he was the pioneer. And all of us who are interested in the opening up of trade in China must be grateful to the pioneers.

Phenomenal Growth of Japanese Electrical Trade

Since the outbreak of the war, the electric industry in Japan has made a phenomenal development, and it is not too much to say, writes the "Toyo Keizai Shimpō" (Oriental Economist), that the remarkable growth of our electric apparatus industry has had a large share in it. The authorized capital of the electric enterprises increased from 500 million yen at the end of 1913 to 644 million yen at the end of 1916; the paid-up capital increased from 398 million yen to 503 million yen; and the debentures and other loans of the electric companies increased from 79 million yen to 107 million yen; while during the same period the generative capacity increased by 200,000 kilowatts. Such satisfactory growth of the electric industry was rendered possible by an advance in the manufacture of electric apparatus.

Before the war, our electric apparatus industry was already sufficiently advanced not only to meet the home demands for dynamos, electromotors, etc., of the smaller type, and electric wires and bulbs, but furthermore to export these things to the Far Eastern countries and the South Sea Islands to the annual value of some one million yen. For the supply, however, of electric machines of the larger type or requiring special skill in manufacture, we were dependent upon foreign countries owing to price, quality or other considerations. In consequence, ten million yen's worth of electric apparatus was annually imported from abroad.

The stoppage of imports consequent upon the outbreak of the war has proved a powerful stimulus to the growth of our electric apparatus industry. According to the investigations by the Department of Agriculture and Commerce, the capital invested in this branch of industry stood at Yen 14,500,000 in July, 1914, of which Yen 9,260,000 was paid up, but it swelled up to Yen 26,850,000 by August, 1916, an increase of 85 per cent., of which Yen 16,700,000 was paid up.

On the other hand, the production has witnessed a proportionate increase. For instance, the output of electric machines increased from 11

million yen in 1913 to 26 million yen in 1916. The figures for 1917 may have touched the level of 50 million yen. The production of electric bulbs also increased from Yen 2,926,000 in 1913 to Yen 7,628,000 in 1916, while that of electric wires and cables increased from Yen 22,923,000 to Yen 34,911,000.

The expansion of the industry is well reflected in our foreign trade. The exports of electric apparatus amounted to only one million yen in 1913, but they jumped up to Yen 7,300,000 in 1916, while the imports fell down from Yen 12,000,000 to Yen 4,100,000. The decrease in imports is due to the cessation or decrease of the supply from Germany and England, while the increase in exports is due to the extension of our market in China, British India, Asiatic Russia, England, etc. Other details are as follows:

IMPORT AND EXPORT OF ELECTRIC APPARATUS (IN THOUSAND YEN)

	Import	Export
1913	11,943	1,071
1914	8,653	1,122
1915	5,120	2,080
1916	4,105	7,338

Before the war, we depended chiefly upon foreign countries for the supply of dynamos, electromotors and other electric machines of the larger type. Only 10 per cent. of the demands were met by the home manufactures. Especially machines of over 1,000 kilowatt capacity were entirely imported from abroad. Thanks, however, to the stoppage of the foreign supply, dynamos and other electric machines ranging from 1,000 to 12,500 kilowatts are now manufactured at the Mitsubishi Dockyard, the Shibaura Seisakujo, the Hitachi Seisakujo, and other factories. The production of electric machines for the past five years is as follows:

PRODUCTION OF ELECTRIC MACHINES

	Yen
1913	6,637,831
1914	5,587,127
1915	6,154,691
1916	18,000,000
1917	28,000,000

The expansion, however, of the electric apparatus industry has not meant cheaper production. Owing partly to the appreciation of labor and partly to the great rise in prices of raw materials, home manufactures have been sold at rather a high price. It is difficult to learn accurately how far the high prices have affected manufacturers, because they usually contract for the purchase of materials for the whole or half year. To take thin iron plate, one of the chief materials, for instance, it has steadily risen in price as follows:

QUOTATIONS FOR THIN IRON PLATE IN TOKYO (PER POUND)

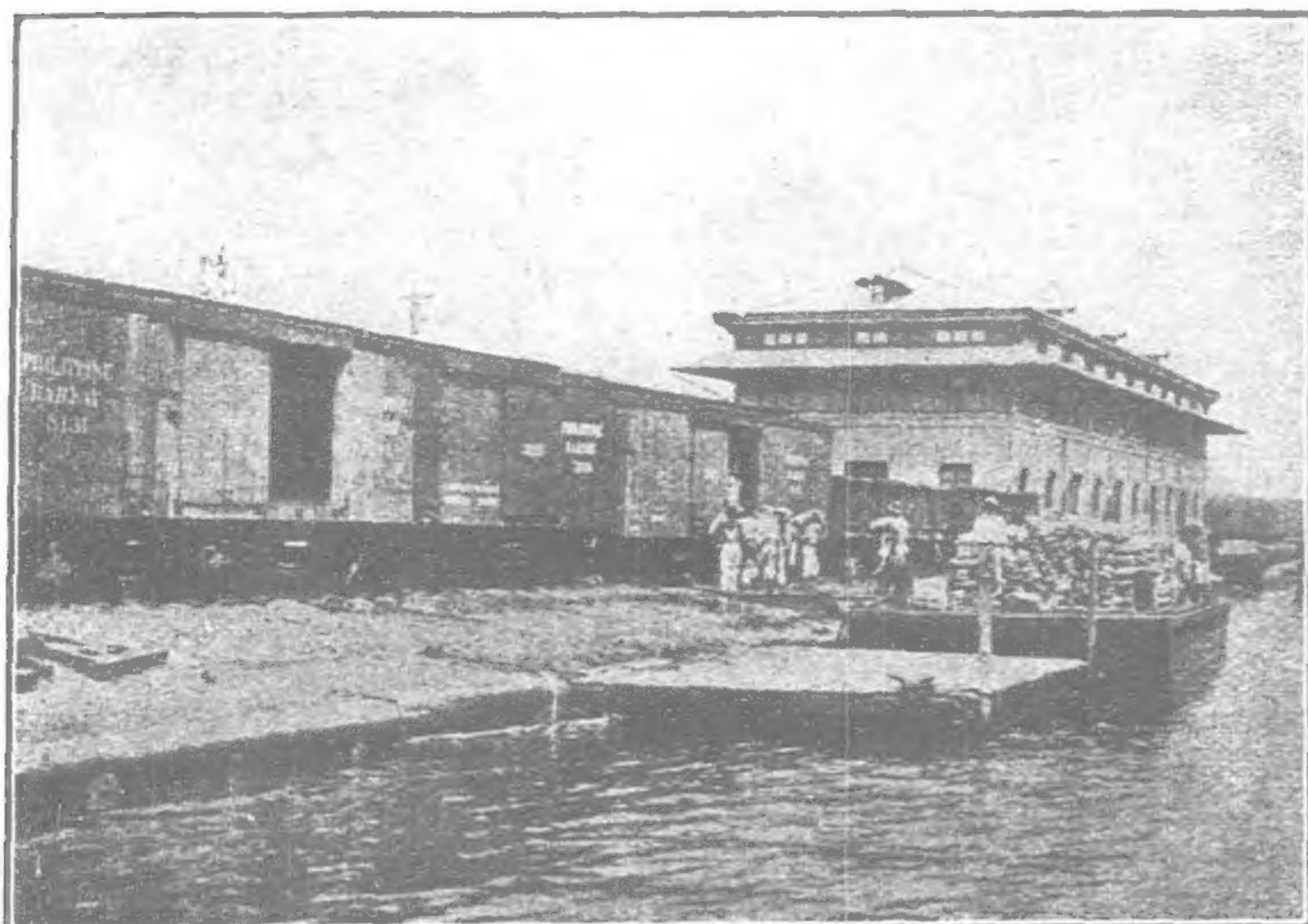
	sen
First half, 1914	8
Latter half, 1914	12
First half, 1915	12
Latter half, 1915	15
First half, 1916	19
Latter half, 1916	29
January and February, 1917	30
March, 1917	39
April, 1917	48
May, 1917	70
June, 1917	70

Besides thin iron plates, the prices of various iron and steel materials, electrolytic copper, and insulator materials have also risen. Above all, the recent exceptional jump in the price of pig-iron threatens to paralyse the development of the industry. We have succeeded in securing independence, asserts the "Toyo Keizai Shimpō," with regard to technical skill, but not yet concerning the supply of raw materials. Indeed should America extend her embargo to thin iron plates, the magazine expresses fears, and with reason, lest our electric apparatus industry might be paralysed.

In spite of our handicapped supply of raw materials, the industry has achieved an all-round development. Not only dynamos, electromotors and other electric machines but electric generators such as water-wheels, steam turbines and gas engines of the larger pattern are now manufactured at home. Before the war, the Mitsubishi Dockyard and the Dengyosha were able to manufacture dynamos and water-wheels only of a limited capacity by way of experiment. Exigencies of the war, however, have called for their further exertions. At first they managed to fill the pressing orders of those electric companies which had their supply of electric machines cut off by the outbreak of the war. In proportion to their advance in skill, the merits of their manufactures have come to be appreciated. Now they can turn out not only dynamos of the 10,000 kilowatt class but water-wheels of the 7,000 kilowatt class. Other factories such as the Hitachi Seisakujo and the Okamura Electric Apparatus Co. have also commenced the manufacture of water-wheels with a fine success. As regards gas engines of the larger type, a factory belonging to the Miike Colliery has succeeded in manufacturing 3,000 h.p. ones. What a difference between the present advance in our electric apparatus industry and its backward state before the war when we could manufacture only 1,500 kilowatt dynamos and 500 h.p. water-wheels!

Progress of the Philippines

The Islands Enjoyed Unprecedented Commercial Prosperity in 1917 Despite World-wide Depression



UNLOADING SUGAR AT PHILIPPINE RAILWAY COMPANY'S WHARF, LAPUS

The year 1917 was one of unprecedented commercial prosperity in the Philippine Islands despite the world-wide depression due to the continuance of the European war, and showed a material increase in the foreign demand for Philippine products, and an excellent improvement in the home market for importations.

This is set out in the annual report issued by the Bureau of Customs for the year 1917, covering Customs transactions in connection with foreign and local trade, immigration, emigration, and navigation, together with a brief review of Philippine commerce in comparison with previous years.

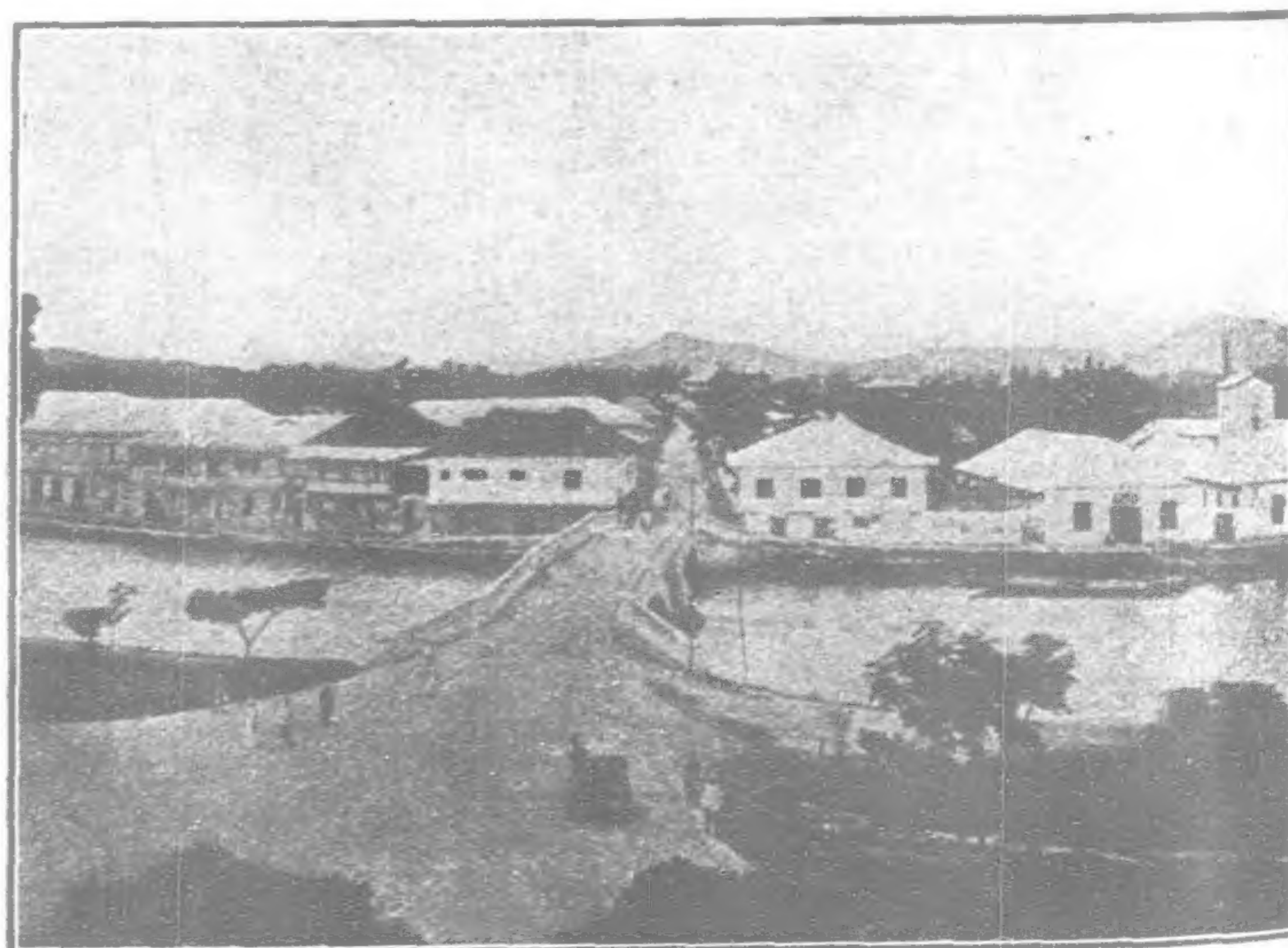
The total value of foreign trade for the year, computed from the declared values of all imports and exports, amounted to P.322,802,674 which is approximately 40 per cent. greater than the preceding year. This increase was due in a large measure to higher prices generally of some commodities, but it was also due to increased home production of commodities for export and greater local demand for the manufactures and products of foreign countries.

The following table shows the value of imports and exports, total trade, and trade balance for each year from 1899 to 1917:—

Year ended Dec. 31	Imports	Exports	Total trade	Balance of trade	
				In favor of Islands	Against Islands
1899	P.38,385,972	P.29,693,164	P.68,079,136	...	P.8,692,808
1900	49,727,558	45,980,746	95,708,304	...	3,746,812
1901	60,324,942	49,006,706	109,331,648	...	11,318,236
1902	66,684,332	57,343,808	124,028,140	...	9,340,524
1903	67,622,768	64,793,492	132,416,260	...	2,829,276
1904	59,155,462	58,299,000	117,454,462	...	856,462
1905	60,101,100	66,909,548	127,010,648	P.5,808,443	...
1906	52,807,536	65,285,784	118,093,320	12,478,243	...
1907	60,907,620	66,195,734	127,103,354	5,288,114	...
1908	58,372,240	65,202,144	123,574,384	6,829,904	...
1909	62,168,838	69,848,674	132,017,512	7,679,336	...
1910	99,438,722	81,256,926	180,695,648	...	18,181,796
1911	96,048,814	89,674,254	185,723,068	...	6,374,560
1912	123,335,802	109,846,600	233,182,402	...	13,489,202
1913	106,625,572	95,545,912	202,171,484	...	11,079,660
1914	97,177,306	97,379,268	194,556,574	201,962	...
1915	98,624,367	107,626,008	206,250,375	9,001,641	...
1916	90,992,675	139,874,365	230,867,040	48,881,690	...
1917	131,594,061	191,208,613	322,802,674	59,614,552	...

The balance of trade for the period from 1899 up to the end of 1915 was against the Philippine Islands to the amount of P.37,621,183, but the year 1916 left a net balance in favor of the Philippine Islands amounting to P.11,260,507, increased the following year to P.70,875,059.

The changing commercial relations of the Philippine Islands with foreign countries, which was noted last year, is still marked, due to effects of the war. No trade is recorded with the central countries of Europe except as to such merchandise as was en route before the commencement of the war. Trade with the United Kingdom, which last year showed a substantial increase over previous years, especially in regard to exports, this year shows a decline of 11 per cent., principally due to reduced exports. Trade with Japan, which showed an increase of 27 per cent. for 1916 over 1915, shows a greater increase this year over last year, amounting to 62 per cent. Trade with the French East Indies declined 12 per cent., principally due to reduced rice importations; the amount of exports, though small, having quadrupled. Trade with France shows a continued decline, being less than one-half that of the year 1915. Trade with China shows a substantial increase, being this year almost double that of 1915, both as to imports and exports. The same is true of the trade with Hongkong. Trade with Spain shows a decline of 30 per cent., applicable both to imports and exports. Trade with Australasia almost doubled, both as to imports and exports, while trade with the British East Indies shows slight decline. Trade with Italy amounts to only one-third that of last year, which was less than one-half that of the previous year. Trade with Switzerland shows a slight decline, with the Dutch East Indies a slight increase, and with the Netherlands was practically nil. Trade with Siam, though small, shows an increase of about 10 per cent., while with Norway it decreased. Imports from Kuantung territory (Japanese China) show a slight increase, but exports decreased. Canada received 20 per cent. less of our exports than in 1916, but the imports, though small, more than doubled. The more important trade relations are shown with the United States, which received approximately two-thirds of all exports and furnished almost three-fifths of all imports, amounting to an increase of 72 per cent. over the year 1916, and more than double that of 1915.



VIEW OF CAPIZ, PANAY—NORTHERN TERMINUS OF PHILIPPINE RAILROAD

Carrying Trade.

The number of vessels engaged in the foreign trade calling at Philippine ports show a considerable decrease in comparison with previous years, but the increase in general trade indicates that full cargoes were available for each vessel engaged, both as to imports and exports. British vessels, as usual, received the greatest share, which was, however, 15 per cent. less than last year, in spite of the general increase in the volume and value of trade. Their share amounts approximately to only one-third of the total this year, as compared with 56 per cent. in 1916, the reduction appearing in the export trade, their share of the import trade having slightly increased. Japanese vessels received almost double the value of trade carried by them in 1916, or approximately 25 per cent. of the total trade. American vessels rank third, with a share amounting to about 22 per cent. of the total, of which their share of the export trade exceeds that of the Japanese vessels and almost equals that of the British. Norwegian vessels rank fourth, with Philippine vessels fifth, in respect to the value of trade transported.



LOCOMOTIVE RECENTLY EQUIPPED FOR BURNING WOOD OWING TO HIGH COST OF COAL.

Imports.

The total value of imports for the year 1917 amounts to the sum of P.131,594,061, which shows an increase of almost 50 per cent. over that of last year, which was P.90,992,675. The year 1916 showed the lowest total value of imports since 1909, but the total value this year is the greatest on record. The increase is largely due, however, to higher prices generally of all commodities, rather than to the greater quantities imported. The principal commodities concerned in the increase are cotton goods, cement, dairy products, fibers and grass goods, iron and steel, leather and manufactures, paper and manufactures, meat products, silks, wood manufactures, and woollen goods. Importations of rice show a considerable decline both as to quantity imported and total value, while other foodstuffs show a general increase. Other commodities showing a decrease in total value of importations, as compared with last year, are carabao and other cattle, breadstuffs other than flour, eggs, India-rubber goods, musical instruments, spirits, wines and liquors, and sugar and molasses. All other usual imported commodities show a general substantial increase. The principal imports are discussed separately in the following paragraphs:-

Exports.

The enormous increase in the total value of exports for the year is due to higher prices generally of all commodities and increased quantities. As was the case last year, hemp again heads the list of exports, with copra and coconut products second, and sugar third on the list. Foreign merchandise amounting to P.3,324,851 in value was exported during the year, as compared with P.3,208,678 in 1916. The total value of all exports of domestic products amounts to P.187,883,762, as compared with P.136,665,687 for the year 1916, the increase amounting to 39 per cent.

Subports.

Iloilo.—Lack of transportation to market the sugar crop of the Iloilo district appears to be the chief cause of this port

dropping behind the port of Cebu in respect to the volume of foreign commerce this year. The total value of imports and exports amounted to P.14,018,491, as compared with P.32,317,993 last year, of which amounts, P.4,488,606 and P.5,121,790 represent the value of imports for each year, respectively, showing a slight decrease in the import trade, the balance representing the decrease in the export trade. The value of sugar exports, which is the chief article of export trade at this port, amounted to only P.8,765,559 this year, as compared with P.26,730,067 last year. In other words, the value of last year's sugar exports alone from this port was almost double the value of her entire foreign commerce this year. The great decline in tonnage available at this port during the year is seen from the number of entrances and clearances in the foreign trade, which amounted to 24 entrances, tonnage 20,542, as compared with 61 entrances, tonnage 136,553, last year, and 37 clearances, tonnage 48,704, this year, as compared with 61 clearances, tonnage 123,421, last year. In the coastwise trade, 5,216 entrances, tonnage 343,730, and 5,280 clearances, tonnage 344,488, are recorded this year, as compared with 6,041 entrances, tonnage 397,070, and 6,071 clearances, tonnage 398,130, recorded last year, showing a general decrease of about 20 per cent. The collections at this port amounted to P.919,991.89 this year, as compared with P.1,449,775.85 last year, showing a decrease of 36 per cent.



SECTION GANG AT NAGA BRIDGE, CEBU

Cebu.—The total of the foreign commerce of the port of Cebu for the year 1917 amounted to P.35,270,779, of which sum P.8,036,105 represents imports and P.27,234,674 exports, as compared with P.5,671,466 imports and P.13,274,011 exports for the year 1916. Cebu, therefore, ranks second to Manila in importance in respect to the year's trade, which place was held by Iloilo last year. Hemp was the principal article of Cebu's export trade, representing almost one-half of the total value of exports. Copra ranked second, representing almost one-fifth the total value of her exports. Both hemp and copra exports practically doubled in value, as compared with last year. Entrances of 5,013 vessels in the coastwise trade, with a total tonnage amounting to 288,219, were recorded, as compared with 2,915 entrances and 239,947 tonnage last year, while clearances numbered 5,093 vessels, tonnage 293,365, this year, as compared with 3,010 clearances, tonnage 243,784, last year. In the foreign trade, entrances of vessels numbered 70, with a total tonnage of 82,692, this year, as compared with 42 entrances, with a total tonnage of 62,668, last year. Clearances numbered 58, with a total tonnage of 89,680, as compared with 30 vessels, tonnage 56,795, cleared last year. This shows a considerable increase in the amount of tonnage for the foreign trade available at Cebu during this year, and the increase in the amount of trade indicates that a much greater portion of the tonnage available was taken up. The gross collections of the port amounted to P.1,879,810.98, being an increase of 55 per cent. over last year.

Jolo.—The total value of the foreign trade at this port during the year was P.1,214,081, of which amount P.1,022,697 represents the value of imports, and P.191,384 exports, as compared with P.635,487 imports, and P.334,393 exports, last year. This shows that the import trade at this port almost doubled, while the export trade is almost cut in half. Lack of cargo space for this port appears to be the cause of the reduction in her export trade, and the commodities, which formerly were shipped direct to foreign ports, were forwarded by coastwise vessels to other Insular ports. Entrances of vessels in the foreign trade numbered 27, with a tonnage of 11,894, as compared with 25 entrances last year, tonnage 11,594. The number of clearances recorded is 25, tonnage 11,605, as compared with 25 clearances, tonnage 11,604, last year. Coastwise entrances numbered 107, tonnage 37,105, with the same number of clearances, as compared with 132 entrances, tonnage 50,755, and the same number of clearances, last year. The total collections of the port amounted to P.224,128.40, which is the highest amount on record.



CAR CLEANERS, PANAY

Zamboanga.—Foreign trade at this port for the year doubled in value of imports and shows a slight increase in value of exports, as compared with last year. Entrances of foreign vessels numbered 24, with a tonnage of 56,080, and clearances numbered 21, tonnage 55,783, as compared with 20 entrances, tonnage 54,126, and 23 clearances, tonnage 64,267, last year. The records show 601 entrances of coastwise vessels, tonnage 95,961, and 623 clearances, tonnage 100,618, as compared with 599 entrances, tonnage 86,405, and 607 clearances, tonnage 86,910, last year. The collections of the port increased one-third over last year, amounting to P.143,202.11.

Balabac.—The value of foreign trade at this port amounted to only P.16,380, which is less than one-half that of last year, and less than one-third that of the previous year. There were only seven entrances and clearances of coastwise vessels recorded during the year.

Aparri.—While Aparri is not a port of entry, it is an important centre of coastwise trade. The number of entrances of coastwise steamers recorded was 90, and of sailing vessels, 420. In the inland trade of that port, 1,652 arrivals of small vessels, and 1,700 departures, were recorded.

Philippines Railways in 1917

The twelfth annual report of the Philippine's Railway Company, outlining the results of the operation of their lines in the Islands during 1917, has been issued, over the signature of Mr. R. R. Hancock, the Vice-President and General Manager of the Company. The following is a summary:

The kilometerage of main line embraced in the operations of the Company is as follows: Island of Cebu 95.6; Island of Panay 116.4; Total 212.0.

Operating Revenues.—Freight revenues increased \$9,852.30, passenger revenues \$25,089.06 and revenues from other sources \$15,343.56 as compared with the previous year, making a total of \$50,293.92.



SUBURBAN TRAIN, PANAY

On September 1st, 1917, the passenger rates were raised 10 per cent. and freight rates 20 per cent. The extra revenue for the four months during which the increased rates were in effect amounted to \$6,700 from freight and \$8,600 from passengers. The charges of all competing means of transportation were also increased, and no appreciable amount of business was lost to the railway.

The weather has been unusually wet, so much so as almost to destroy the sugar and corn crops, two of the principal commodities handled over the railway. There was a large production of rice and palay, which accounts for the improvement in freight business.

The increase in passenger traffic is mostly due to large attendance at "fiestas" and travel incident to gathering rice.

The amount of commercial shop work performed during 1917 was exceptionally large. The following statement shows the comparison with the past year:

	1916	1917
Cost of Completed Shop Work	\$33,258.14	\$44,167.81
Profit...	12,411.50	19,661.81
Per cent of Profit	37%	45%

Operating Expenses.—Operating expenses (exclusive of commercial shop work) increased over last year by \$37,000. This is due to the high price of all materials and particularly fuel. All kinds of imported supplies have greatly increased in cost, as have also lumber, ties and other local products. Expenditures for salaries and wages were practically the same for the two years, except for the increase on account of commercial shop work and handling firewood.

A law was enacted early in the year authorizing the formation of a government controlled coal company with capital stock of \$1,500,000, of which 51 per cent. was subscribed by the Government.

A company was promptly formed and some preliminary investigation work has been done.

Distributed throughout the islands there are extensive deposits easily accessible of low grade coal well suited for nearly all industrial purposes. Trial runs are now being conducted toward determining whether our locomotives can be equipped so as to successfully burn Philippine coals. Active development of these deposits would undoubtedly greatly benefit the islands.

Maintenance of Way and Structures.—The cost of maintaining way and structures amounted to \$7,700 more than last year.

Maintenance of track and bridges was especially expensive on the Panay Division, due to renewals of pile bridges, slides on high fills and widening embankments.

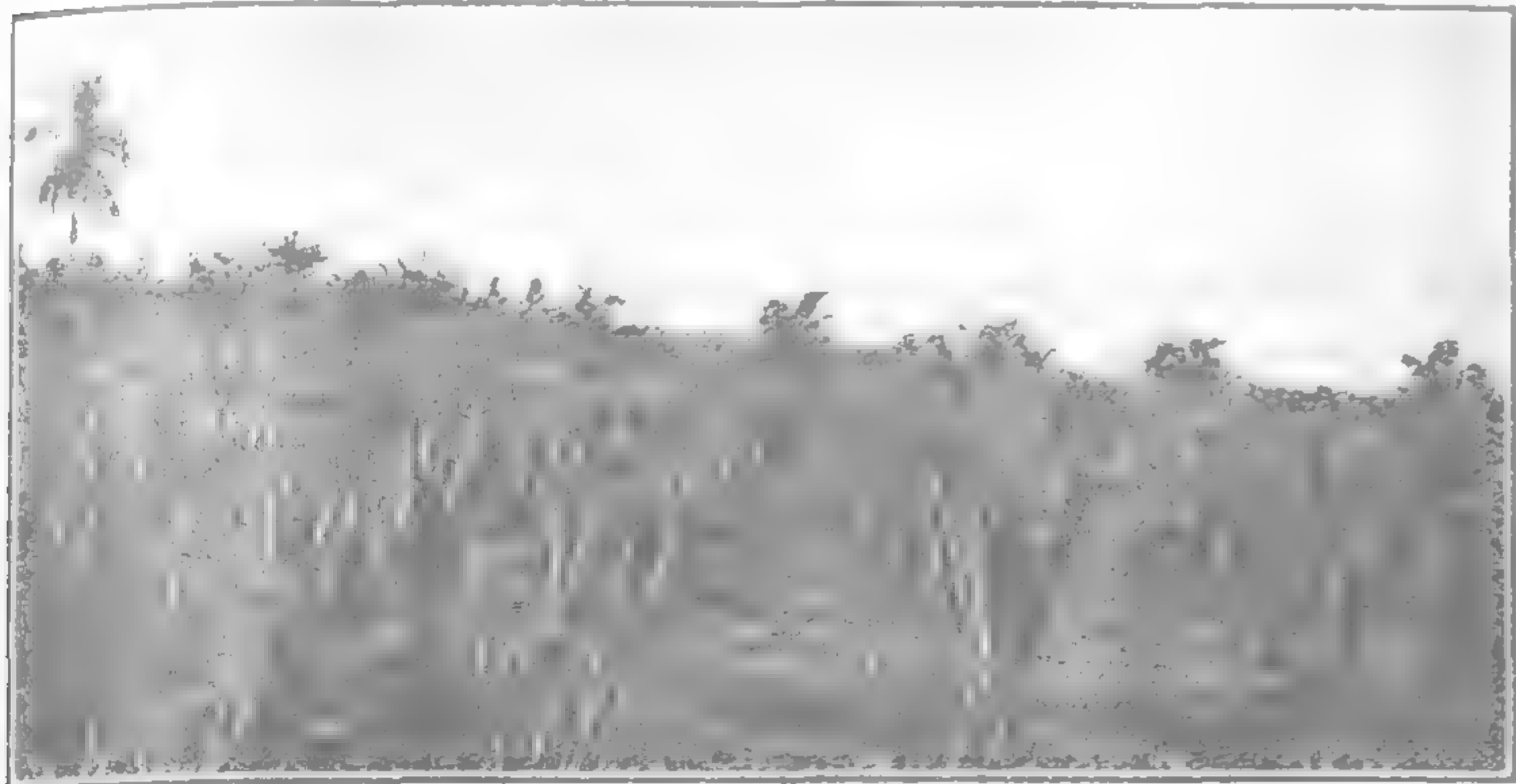
Statements showing details of maintenance expenses are included with this report.

Maintenance of Equipment.—The cost of maintaining equipment exceeded the preceding year by \$10,000. This includes \$2,050 written off on account of retirement of one sixty ton lighter which was no longer fit for service. High prices of materials and extensive freight car repairs account largely for the heavy maintenance costs.

During the year seven locomotives received heavy repairs, and forty-four cars were thoroughly overhauled or rebuilt.

During the next year seven locomotives will require heavy repairs, and forty-six cars will be renewed or overhauled as to wood work.

The floating equipment has been increased during the year by one thirty-five-foot gasoline launch constructed in the company's shop at Cebu, one smaller gasoline launch and three wooden lighters purchased second hand.



MAGUEY FIELD, CEBU—A GROWING INDUSTRY. AIDED BY THE PHILIPPINE R. R. CO.

Transportation Expenses.—Transportation expenses were greater by \$20,000 than for last year, practically all of which is due to high cost of material and supplies. The item of fuel alone increased by \$17,000. The principal fuel used was wood, of which there was consumed by locomotives 13,545 cords at an average price of \$3.49 per cord on pile. The total consumption of coal by locomotives was 1,363 tonnes. For purpose of comparison in our reports, we rate two cords of wood as the equivalent of one tonne (1,000 kilograms) of coal. On this basis the cost and tonnage of fuel consumed by locomotives as compared with the year 1916, was as follows:

	1917	1916
Total value on tank	\$61,968.00	\$45,683.16
Total consumption, kilograms	8,134.503	7,818.323
Consumption per locomotive kilometer, kilograms	18.04	15.36
Consumption per 100 tonne kilometers, kilograms	12.00	10.39

The coal consumed in 1916 was contracted for in 1915 and cost \$5.55 per ton on pile. It was considered probable that the use of wood would increase our fuel costs approximately 50 per cent. as compared with coal at the above price. The actual increase has been somewhat less. A year ago coal was quoted to us at \$14.50 per tonne. It would cost probably \$25 a tonne at the present time. We still have on hand about 2,400 tonnes purchased at the 1915 price.



MOTOR CAR FOR MOWING RIGHT-OF-WAY, PANAY

We have no difficulty in obtaining a sufficient supply of wood for our needs on the Island of Panay, but on Cebu it is necessary to provide our own water transportation from the nearby islands, as there is little wood on Cebu proper. We have two small tugs

and two lighters in this service, and it seems probable that with this equipment we will be able to maintain a sufficient supply for several years to come.

With the change of locomotive fuel it was found practically impossible to maintain our old train schedules, due to reduced efficiency when burning wood and time required for wooding. It did not seem advisable to put on more crews, and we, therefore, reduced our train service by about 14 per cent. on each division early in the year.

Additions and Betterments.—The principal items under this account are one thirty-five-foot gasoline launch built in our Cebu shops at a cost of \$2,000, one launch purchased second hand for \$700, one flat top scow purchased for \$2,625, one lighter costing \$3,500, and one lighter costing \$1,500.

A statement of all charges to additions and betterments will be found among the accounting statements included herewith.

Accidents—Loss and Damage.—An American track foreman was struck and killed by a falling derrick boom while renewing a pile bridge on the Panay Division. Another American had his foot cut off by being caught in a frog while crossing the track just in front of a slow moving locomotive. A native employe in attempting to jump on a switching locomotive, fell and was caught under the wheels. He died on the operating table. Several trespassers were more or less severely injured by passing trains.

The total payments made by the company since the commencement of operation in 1909 for injuries to persons and loss and damage to freight, have amounted to \$1,563.98.

Bond Interest.—The interest on the outstanding 4 per cent. first mortgage bonds of the company amounted for the year to \$341,960.00,—of this amount, the company was able to provide from earning \$131,486.63, and the Philippine Government, in accordance with the contract of guaranty, advanced the balance, or \$210,473.37. The total advances made by the Government as of December 31, 1917, to meet the interest on the bonds is \$2,385,926.41.



IMAGE OF THE "HOLY CHILD", CEBU, VISITED BY 15,000 RAILWAY PASSENGERS EACH YEAR

BALANCE SHEET.

Assets.	
<i>Property Investment :</i>	
Road	\$6,055,358.47
Equipment	518,425.46
General Expenditures	2,585,957.95
	\$ 9,159,741.98
<i>Contractual Rights (Cost)</i>	
	4,999,000.00
<i>Working Assets :</i>	
Cash	\$ 59,049.37
Securities Issued, held in Treasury	6,400.00
Due from Agents and Conductors	530.69
Miscellaneous Accounts Receivable	27,076.68
Materials and Supplies	150,856.16
	243,722.90
<i>Deferred Debit Items :</i>	
Insurance Premiums Paid in Advance	\$ 190.51
Other Deferred Debit Items	3,034.94
	3,275.45
<i>Corporate Deficit :</i>	
Profit and Loss—Balance	\$1,699,914.06
Less Total Appropriated Surplus	123,657.27
	1,576,256.79
	\$15,981,997.02

Liabilities.	
Stock :	
Capital Stock—Common	\$ 5,000,000.00
Funded Debt :	
First Mortgage Four per cent. Thirty-year	
Sinking Fund Gold Bonds, Due 1937—	
Interest Payable July 1-January 1	8,549,000.00
Working Liabilities :	
Audited Vouchers and Wages Unpaid	\$ 45,348.01
Other Working Liabilities	1,722.60
	47,070.61
Deferred Credit Items :	
Advances by Philippine Government to meet	
bond interest	2,385,926.41
Appropriated Surplus :	
Additions to Property Through Income	\$ 48,657.27
Reserve for Extraordinary Emergencies	75,000.00
	\$123,657.27 \$15,981,997.02

INCOME ACCOUNT.

Operating Income :	
Railway Operating Revenues :	
Freight	\$125,399.13
Passenger	258,114.78
Excess Baggage	649.55
Mail	5,439.24
Express	5,784.58
Switching	3,671.50
Special Service Train...	177.60
Total Rail-Line Transportation	\$399,226.28
Storage-Freight	\$ 85.30
Demurrage	3.00
Rent of Buildings and Other Property	4,171.87
Miscellaneous	70,783.44
Total Incidental Revenue	75,043.61
Total Railway Operating Revenues	\$474,269.99
Railway Operating Expenses :	
Maintenance of Way and Structures	\$ 70,492.86
Maintenance of Equipment...	55,165.80
Traffic	3,795.24
Transportation—Rail Line	126,523.89
Miscellaneous Operations	44,167.81
General	27,388.05
Total Railway Operating Expenses...	327,533.65
Net Revenue from Railway Operations	\$146,736.34
Railway Tax Accruals	\$ 2,819.56
Uncollectable Railway Revenue	440.97
Railway Operating Income	\$143,475.81
Non-Operating Income :	
Income from Unfounded Securities and	
Accounts	\$ 1,686.86
Miscellaneous Income	320.00
Total Non-Operating Income	2,006.86
Gross Income	\$145,482.67
Deductions From Gross Income :	
Interest on Funded Debt	\$341,960.00
Miscellaneous Income Charges	4,104.44
Total Deductions from Gross Income...	346,064.44
Net Deficit...	\$200,581.77
Appropriations for Additions and Betterments...	9,891.60
Deficit Transferred to Debit of Profit and	
Loss	\$210,473.37

The rolling stock belonging to the Company comprised 15 locomotives, 49 passenger cars, 192 freight cars, and 7 construction cars.

The following are the traffic statistics:

<i>Passengers.</i>					1917	1916
Total Number Carried	...	...	...	...	1,335,639	1,321,795
First Class	...	...	...	...	1,507	2,019
Second Class	...	...	...	...	170,428	176,627
Third Class	...	...	...	...	1,213,704	1,143,149
Number Carried One Kilometer	...	...	...	...	32,003,415	29,366,886
Average Distance Carried per Km.	...	...	...	...	23.1	22.2
Average Receipt per Passenger	...	...	...	...	\$0.1863	\$0.1763
Average Receipt per Passenger per Km.	...	...	...	...	\$0.0081	\$0.0079
<i>Freight.</i>						
Total Number Tonnes Carried	...	...	...	...	55,341	86,895
Number Tonnes Carried One Km.	...	...	...	...	3,211,753	3,337,782
Average Distance Carried per Km.	...	...	...	...	37.6	38.4
Average Receipt per Tonne	...	...	...	...	\$1.4693	\$1.3296
Average Receipt per Tonne per Km.	...	...	...	...	\$0.0391	\$0.0346

The Chinlingchen Iron Mine

Soon after the occupation of the Chinlingchen Iron Mine, in Shantung, by the Japanese Army as a result of the capture of Tsingtau, the Okura Company applied for permission to undertake the work of mining. At first, the Japanese Government was inclined to let the work be done by a private concern. Then came the Kuhara Mining Company with their application for permission. The Japanese Government in July told the representatives of the two companies to negotiate with the Civil Department of the Tsingtau Administration. The representatives of the two companies proposed to supply the Government Iron Foundry in Kyushu with 100,000 tons of ore annually, provided that they could have the rest between themselves. They also added that they would have to invest about Yen 3,000,000 in equipment for the mine and wanted the Japanese Government to refund the money invested in case after the war the mine should be returned to Germany or China.

The Civil Administration of Tsingtau flatly refused to consider the proposition of the two companies and decided to undertake the mining work itself. The chief of the railway section of the Tsingtau Civil Administration after negotiations with the Government secured Yen 2,000,000 as the first instalment out of the budgetary amount for government enterprises. He also obtained a promise from the Government Iron Foundry in Kyushu to supply him with rails, trucks, and other necessary equipment, with the understanding that the Chinlingcheng Iron Mine would supply the Foundry with 200,000 tons annually.

The Chinlingchen Iron Mine property consists of several mines, such as Tieshan, Tanshan, Yuepaoshan, Szepaoshan, Huanwangshan, etc. When the Germans were in control, Tieshan alone was declared to contain deposits amounting to 110,000,000 tons, and the percentage of iron in the ore was stated to be 68 per cent. As a result of investigations by the Japanese mining experts it was discovered that while in the sections of the Tieshan mine above the water level the ore contained 68 per cent. of iron, below the water level much sulphur was discovered and less iron. The Japanese experts estimated that Tieshan contains 10,000,000 tons of ore. Investigations into other mines have not yet been completed.

The railway Bureau of the Civil Administration will build 6 kilometres of railway to be placed under the direction of Dr. Nakada, chief of the mining section of the Bureau, and also a railway extension from the Chinlingchen station to the mine. They expect to turn out 50,000 tons before the end of this year, and 150,000 tons during next year. Five locomotives and 90 cars for mining purposes are to be ready in due time for the work.

When the ore is produced the portion which is to be supplied to the Government Iron Foundry is to be delivered at the pier in Tsingtau, and the Government Iron Foundry is to charter steamers to load the ore there. The skilled Chinese and the coolies who were employed by the Germans were re-engaged last year.

Commenting upon the manufacture of sundials and "lopan" at Hueichowfu, Anhui province, a correspondent of the *North-China Daily News*, says: The sundials are of various shapes and sizes. The "lopan" is used by Buddhists, Taoists, etc., to locate graves and do lots of other things. A peculiar custom exists in Hueichowfu about the making of sundials and "lopan." The secrets are never divulged to the daughters of the house, but the daughters-in-law learn them all, or may learn them. The reason is that the daughter "goes out" to another family, while the daughter-in-law stays in.

Electric Power in Japan

By Mr. Fukuma Miyake, Electricity Bureau of the Department of Communications
of the Japanese Government

The supply of electricity to the public in Japan commenced in November, 1887, when the Tokyo Electric Light Company installed in their plant located in Nihonbashi-ku, Tokyo, a home-made dynamo which supplied electric light current sufficient only for 75 lamps to the public. In the next year, 1888, the company increased its equipment by establishing three new generating stations. In September, that year, the Kobe Electric Light Company was established in Kobe, where four Edison dynamos for 20 kilowatt were installed, and opened the business of lighting Kobe City. But at the end of 1888, the total electricity generating capacity in Japan was registered only as 500 kilowatt.

In May, 1889, the Osaka Electric Light Company was established, which for the first time in Japan adopted the high-tension alternating current system by installing a 30 kilowatt dynamo (1,040 volts) of the Thomson-Houston type, and began to supply electric light to Osaka City. Kyoto, Nagoya, Yokohama followed the lead one after another and were followed by other cities, in the business of supplying electric light. At the end of 1890 the total electricity generating capacity in Japan reached about 1,500 kilowatt.

In Kyoto the water of Lake Biwa (the largest of the inland lakes of Japan, a few miles from Kyoto) was utilized for generating electricity. Four water wheels of 120 horse power each and two dynamos of 80 kilowatt were installed, and the supplying of electric light was commenced in April, 1892. That was the first hydro-electric power station established in Japan.

In February, 1895, the Kyoto Electric Railway Company, for the first time in Japan, conducted an electric traction undertaking. In May, 1898, the Nagoya Electric Railway Company began their enterprise in Nagoya. From that time electrical enterprises developed extraordinarily. Many isolated plants sprang up, while at the same time large central stations were established in many places. Success has been attained with the method of long-distance transmission of power by means of high pressure. And the concentration of power generating has become noteworthy.

The first of such large central station was undertaken by the Koriyama Silk Spinning Company in Koriyama, Fukushima Prefecture, which in 1899 made a success in transmitting power to a distance of 15 miles by means of 10,000 volts pressure. In other plants, which were subsequently established in various places, the voltage was augmented resulting in the increase of distance of transmission. Toward the close of 1907, the Tokyo Electric Light Company completed its hydro-electric generating station with a capacity of 15,000 kilowatt at Komabashi, Yamanashi Prefecture, from which electricity has been transmitted to Tokyo City, a distance of 50 miles, by means of extra-high tension of 55,000 volts. In November, 1914, the Inawashiro Hydro-Electric Company established a generating station with a capacity of 14,000 kilowatt, from which power has been transmitted to a distance of 140 miles by an extra-high tension of 115,000 volts. The Inawashiro Hydro-Electric Company, moreover, increased its capacity in June, 1917, to 37,500 kilowatt. This plant is at present the largest hydro-electric station in Japan.

The following is a list of large central generating stations in Japan, already completed, whose capacity is more than 10,000 kilowatt:

Company	Location	Primary Power	Kilowatt Capacity	Highest Voltage
Osaka Electric Light Company (Ajikawa Generating Station)	Osaka	Steam	38,750	11,000
Inawashiro Hydro-Electric Company (Inawashiro Generating Station)	Fukushima Prefecture	Water Power (Nippashi River)	37,500	115,000
Tokyo Electric Light Company (Yatsusawa Generating Station)	Yamanashi Prefecture	Water Power (Katsura River)	35,000	55,000

Kinugawa Hydro-Electric Company	Tochigi Prefecture	Water Power (Kinu River)	31,200	66,000
Ujikawa Electric Company	Kyoto	Water Power (Uji River)	29,000	55,000
Tokyo Electric Light Company (Komabashi Generating Station)	Yamanashi Prefecture	Water Power (Katsura River)	15,000	55,000
Kyushu Hydro-Electric Company	Oita Prefecture	Water Power (Kusu River)	15,000	66,000
Oij Paper Milling Company	Hokkaido	Water Power (Chitose River)	15,000	45,000
Katsuragawa Electric Company	Yamanashi Prefecture	Water Power (Katsura River)	14,000	77,500
Kyushu Electric Railway Company	Fukuoka Prefecture	Steam	13,750	22,000

Present State of Development

According to an investigation made at the end of 1916, the number of electrical enterprises, including isolated plants, was 2,619, and the entire capacity was 805,000 kilowatt. Compared with ten years before, the number of enterprises increased about five times and the capacity about nine times. An especially noteworthy development was that of hydraulic electricity. Whereas the capacity to generate by steam and gas increased five times in that year as compared with ten years before, the capacity to generate by hydraulic power increased eighteen times; so that whereas the capacity by hydraulic power was less than one-half of that by steam ten years before, it is now even one-and-half times as large. If the plants not yet completed be counted, hydraulic electricity will figure twice as large as electricity by other sources of power.

The prosperity of electrical enterprises led to the increase of capital invested in them, so that at the end of 1916 the total amount of capital invested in enterprises for supplying electricity, and in electric railway undertakings, reached Yen 633,700,000. Compared with ten years before this is an increase of five and half times.

NUMBER OF ENTERPRISES, INCLUDING ISOLATED PLANTS.

Hydraulic Power.			
Year	Business Commenced	Not Yet Commenced	Total
1906	105	32	137
1911	341	89	430
1916	1,195	117	1,312
Steam Power			
1906	454	37	491
1911	812	149	961
1916	1,422	64	1,486
Grand Total			
1906	559	69	628
1911	1,153	238	1,391
1916	2,671	181	2,798

KILOWATT CAPACITY, INCLUDING RESERVES.

Hydraulic Power			
Year	Business Commenced	Not Yet Commenced	Total
1906	25,195	110,662	135,857
1911	143,831	468,940	612,771
1916	469,634	359,682	829,316
Steam Power			
1906	66,101	21,725	87,826
1911	177,733	91,604	269,337
1916	335,655	55,277	390,932
Grand Total			
1906	91,296	132,387	223,683
1911	321,546	560,544	882,108
1916	805,289	414,959	1,220,248

Electric Light and Power

Accompanying a development of electrical enterprises the number of electric lamps and motors installed usually increases out of proportion. To the increase of kilowatt capacity, as is well known to every one. As in other foreign countries electric light developed first in Japan and spread generally. The number of lamps installed, compared with ten years ago, increased more than sixteen times; and, compared with five years ago, more than three times. At the end of 1916 the number totalled 9,030,000 and the candle power 98,000,000. To-day there are 93 lamps for each hundred houses, and for each hundred persons 16 $\frac{2}{3}$ lamps, with 177 candle power.

The recent increase in electrical power for industrial purposes has been very remarkable. At the end of 1916 the motor power supplied by those engaged in the business of supplying electricity amounted to 235,000 horse power. Compared with ten years before this is an increase of 28 times. In addition the power supplied by isolated plants amounted to 390,000 horse power. Adding the two figures the total reached 625,000 horse power.

During the industrial prosperity following the Russo-Japanese war electric enterprises showed remarkable development, which was particularly noted in the direction of electric light and electric railways. When the present world war began electricity was employed in various industries to an extraordinary extent. In fact there has been a revolutionary change in the utilization of electricity. Take the case of motors for power, whereas the entire amount of power supplied in 1914 was 390,000 horse power, in 1916 it increased to 620,000 horse power, and is making further rapid development. There has also been great expansion in the use of power for electro-chemical industries, electro-metallurgical industries and other purposes.

Electric Railways.—Electric railways in Japan were built first in large cities and their neighborhood, as in other countries, and gradually were developed in small cities, and towns throughout the country. They are fast becoming the chief means of communication in cities and towns. Electricity is also gradually being employed as primary power by the national railways. At the end of 1916 the length of track throughout the country was 890 miles, and the rail extension 1,368 miles, with 4,492 cars. Compared with ten years before the length of track and the railway extension increased five times and the number of cars three times.

Electro-chemical Industry, etc. The effect of the European War upon Japanese industries has been manifold. The most noteworthy result was the rise of electro-chemical and electro-metallurgical industries. Before the war some development was noticeable in electro-copper refining and in the manufacture of carbide and nitrogenous fertiliser. But the scope was limited and the amount of power used was only 38,000 kilowatt. When the European war broke out the industry suddenly prospered and the variety of articles manufactured was greatly extended. The electrical industry has now come to occupy a most important position among the industries in Japan. In August, 1917, the power used reached 89,000 kilowatt. Adding to that the power to be used for undertakings now in process of establishment, or being planned, the total will reach to 485,000 kilowatt. Again in point of articles manufactured, during 1916 the amount reached Yen 117,700,000—two and a half times as large as before the war. The increase will be much greater if all the enterprises now being planned be completed in the near future.

Profits Following Developments

Electrical enterprises have brought about enormous advantages from the social and economic point of view, in developing the natural resources and increasing the prosperity of the people. For instance electric light—being far superior to other artificial lighting facilities from the point of view of sanitation, of convenience, and prevention of conflagration—is to-day supplied throughout the country even to small towns and villages.

The development of the utilization of electricity in industry has helped to make small-scale family industry very much easier than before and at the same time helped more and more the

development of large-scale industry. It has brought about economy in the use of coal, kerosene, men and animals. It has lowered the cost of production of goods. It has generally helped the advancement of civilization.

The development of electrical railways has made the communications of cities and towns more convenient and faster so that residential districts have been removed to suburbs, and the citizens of cities and towns have been given opportunities for exercises and recreation.

Again the development of electro-chemical and electro-metallurgical industries has furnished the Japanese people with necessary articles of various descriptions, which has helped to a great extent to strengthen national independence.

The electrical exhibition which was held in Tokyo this year marked an epoch in the development of electrical enterprises in Japan. It told the story of how perfectly Japanese manufactured articles are arranged, and attested to the progress of civilization in Japan.

The Reason of Development

As we have stated before, electrical enterprises at first developed by means of steam, gas, and kerosene generating machinery. But the chief cause of present day prosperity in those enterprises, aside from the development of the system of central supply stations, which placed the generation and distribution of electricity under proper organization, is the fact that the exploitation of water power has been conducted in a wholesale manner. It is plainly to be seen that future development will owe everything to a proper co-ordination of the two things.

Water power being a natural power, generally speaking unlimited in its supply, the cost of generating electricity therewith is naturally cheaper than that by other means. Japan is rich in volume of rainfall and in mountains, so that she has very many sites where useful water power can be effectively employed for generating electricity. The possibilities of these water power sites throughout the country was estimated to be 5,520,000 horse power in a low water season. Of this amount, that which has already been utilized is 915,000 horse power, while the remaining 4,600,000 horse power is awaiting future utilization. These figures have been taken with the low water season as the basis; so, should the volume of water in the mean water season be utilized as primary power for industrial purposes, the amount of horse power therefrom will reach an enormous figure, the cost of generating electricity will be made very much cheaper, and the development of electrical enterprises become greater. The reduction in the cost of supply of electricity will benefit the industrial world generally, so that cheap products will be turned out in great quantities to contribute toward the greater development of civilization of the country.

Marquis Okuma and the Philippines

The "Philippine Review" recently received and published the following from Marquis Okuma:—

"I cordially congratulate the Filipino people upon the vast strides forward made by them since the establishment of American sovereignty and under the sincere guidance of Americans, in their political, social, educational, and industrial development. The efforts made by Americans and Filipinos, the latter impelled by their legitimate aspirations, for the happiness and prosperity of the Philippine nation, are wonderful. I believe that the progress of any nation depends chiefly upon its national culture, but, at the same time, a mutual understanding and the avoidance of disagreements between it and the foreign nations are also of fundamental importance. I hope that "The Philippine Review," as the mouthpiece of the Filipino people, will not tire in devoting its efforts to this great task. With my wishes for the Filipino people to become, at a no distant date, a useful factor in the Orient for the welfare and happiness of the whole world, I improve this opportunity to assure your Review of my most distinguished consideration.—Marquis Okuma Shigenobu."

Floods in South China

Mr. D. S. Williams, Engineer of Canton, makes Suggestions for Prevention Works

The rainy season this year has caused further costly floods in South China, and every succeeding rainy season will pile up losses unless some practical system of flood prevention is adopted. Every section of China calls incessantly, of course, for similar works, and while northern and central areas which are subject to floods have been reported upon by competent authorities and "considered" time and again, only money is needed to put into effect an adequate scheme of conservation. In the South engineers have also looked over the chief offenders among the waterways, and as nothing has yet been done on a proper scale to carry into effect their proposals it will no doubt prove interesting to all concerned in the proper control of recalcitrant streams of the south to refer to remarks which Mr. D. S. Williams, an Engineer on the Yueh-Han Railway, Canton, felt constrained recently to embody in an open letter to Admiral Tan Hsiao-heng and the Chinese press of Kwangtung Province. Mr. Williams, who ought to be fully qualified to express an opinion on the subject, wrote as follows:

In recent years the floods of the West, North and East Rivers have become so frequent and done so much damage as thoroughly to alarm the people and arouse them to action. The great flood of 1915 was followed by an agitation which resulted in the formation of a Board of Conservancy Works for Kwangtung, and in 1916 the Engineer-in-Chief issued an elaborate report on the work done.

Many complaints are, however, heard, to the effect that the recommendations given in that Report are of little value in the matter of flood-regulation, and that no new advice or information, not familiar to the Chinese for centuries, from practical experience, can be found therein. Attention should also be called to certain facts not mentioned in the Report of the Board of Conservancy Works.

On referring to the report, we find, among other things, the following: Under the heading "Conclusions" (Page 77), "Protection. . . cannot be sought by lowering the high water level, by any of the means enumerated under Chapter VI. . . as this would not be justified." "The object can, however, be attained by confining the floods within the present dyke-systems. . . It is noticeable that this agrees so closely with the statement of Mr. v. Høidenstam in his Memorandum of 1915, in which he concludes (P. 92) that "Any successful method. . . must therefore in any case consist. . . in direct protection. . . by building. . . a complete dyke system. . ."

Now all of that may be perfectly true, and still fail to give all the truth in the matter: may even hide most of the truth. On page 48 the Report begins a discussion of different projects, as follows:

"(a) Closing the Communication between the West and Yangtze River Systems." This is evidently of little or no importance, and benefits to be derived from closing the canals would not balance the resulting disadvantages.

"(b) Creating a new Outlet to the Sea." This is, also, evidently out of the question. It is highly improbable that other provinces would appreciate having Kwangtung's floods diverted to their streams, even if the project should prove feasible from an engineering point of view. However, until very complete investigation is made, this method should not be finally rejected.

"(c) Circumventing Canals at Ling Yang Gorge." This project can be rejected at once, as any benefits to be derived by one section of the river would be quite balanced by increased flooding of other sections.

"(d) Enlargement of the present River-bed." This, as there suggested, is also out of the question at present or in the future, and hardly worthy of consideration.

"(e) Storage Reservoirs." This is discussed at length, and rejected for present consideration. As a matter of fact, this

method should be, and *must finally* be, adopted *wherever the natural conditions favor it*; and should be begun *now* and be carried on gradually, as will be discussed later.

"(f) Afforestation." This is rejected in the report, which says: "As the only, immediate or principal, remedy against floods, afforestation is not to be recommended." Of course not! No engineer would so recommend it *in any case*. But, as a *partial remedy*, to be used in *all favorable situations*, and mainly to *prevent erosion* and consequent siltage, it is most positively to be recommended, in this climate of rapid vegetation-growth, as of first and most urgent importance, as will be shown further on.

"(g) Confining the rivers within embankments (dykes)." The Report says, after rejecting all other methods: "The remaining means. . . agrees with the conception of previous generations that an effective system of dykes. . . would give the protection needed against inundation." This is, flatly, not true and never was nor will be true, in China or elsewhere. It shows a complete misconception of the facts governing the problem, and leaves the flooded areas and their inhabitants just where they were before the Conservancy engineers began. The "previous generations" did not approve the system any more than the present generation does. It was forced on them as the only possible system, the lack of organization and of Government support making any other method hopeless. A flood like that of 1915 would top all main dykes, as they exist at present, by several feet. *If the dykes held; for flood, after all basins were flooded*, covered the whole area between Canton and Kongmoon, Chingyen and Fatshan, to a depth averaging more than ten Chinese feet, and if we assume the dyked channels as covering one-fifth the total area (this is purposely made excessive), the depth of water in the streams, if held by dykes, would exceed forty Chinese feet, after allowing for extra run-off. This is 8 or 10-ft. more than the height of highest dykes at Samshui and Chingyuen. As a matter of fact, the dykes would (and did) burst soon after the water started to run over the tops, from scour on the inner slopes; and the relief to the main channels thus given would at once lower the flood-level. On page 3 the Report says ". . . had the dykes been unbroken and at a constant elevation of 120.0. . . the water could not have passed over them, as the water level reaches, as its maximum, only 119.95." The falsity of this assumption would be easily apparent to any Chinese farmer. A margin of only 5 c.m. (less than one-seventh of a Chinese foot) exists here, and the water would easily have risen at least 2-ft. more if held by dykes. The breaking of the dykes and the consequent relief of the channels, by emptying the water into the fields, lowered the flood-level more than 2-ft. in a short time, and this level was maintained by subsequent further relief due to breaking of dykes away from the rivers, although the crest of the flood passed later. Thus, it becomes clear that more than 2 Chinese feet (probably 5 or 6 to be safe) must be added to the heights of all main dykes in the Samshui district to hold out a flood that reaches a level equal to that of 1914.

This suggests the matter of cost and methods of dyke improvement. Suppose we wish to increase the height of all main dykes in Canton Delta one Chinese foot. The average height of such dykes is probably 12 Chinese feet, at least, and if built with slopes of $1\frac{1}{2}$ horizontal to 1 vertical (the minimum allowable section) and with a top of 9-ft., they need 45 cubic feet of good hard dirt (preferably clay with sand and gravel), which at \$1.50 per ching costs about 70 cents per running foot of dyke. Add charges for taking dirt from fields, sodding, packing, etc., and we get not less than 80 cents per foot of dyke. This is, purposely, a low estimate, including no flood-gate repairs or such work; but it amounts to \$1,440 per Chinese *li**. Now, no one at present can say how long the main dykes of Canton delta run, but it is fairly certain that the total would exceed 5,000 *li*. Say it is

4,000 *li*. Then we have a total of \$5,766,000, required to increase the height of main dykes only one foot. This, it must be remembered, must all go in at once, as it is useless to raise any part of a dyke-system unless all other parts are similarly raised. So we must spend over five million dollars in a year, to raise the main dykes only one foot above present levels. But this is not by any means the total; for if the dykes in Canton delta are raised, the people in the upper districts must, for self-protection, raise theirs too, and districts like Canton, now having only low dykes or

* A *li* is roughly one-third of a mile.

none, must get to work on new dykes or at building up old ones, as protection against the extra water that will be forced down to them on account of the new higher flood-level.

And the Conservancy Board engineer makes no provision for regulating the building up of the river-beds, and consequent increase of flood-levels; so, year after year, the sand collects in the channels, stops entirely some channels, and obstructs navigation at low-water seasons in all channels, and gradually and permanently forces up the maximum flood-level in all parts of the river. Any method of improving flood conditions which ignores the siltage of channels, is sure to fail in the end.

Suggested Remedial Measures

The Conservancy Board engineers offer only one way to remedy the matter. Let us see if there may not be other ways. A close study of flood conditions here, for a period of about fourteen years, during which time two record floods have occurred, convinces me that the problem could be solved in some such way as outlined below.

First.—Repair and upkeep of present dyke-system, much as is suggested in the Conservancy Board's report, but with some differences. The whole system to be, as at present, under the direction of Admiral Tan. Each district to be controlled by an inspector, preferably one of the local gentry of influence, who will be given military rank and title, and have full power in his district, acting under the director. Each basin in the district to be governed by a supervisor, selected from the native farmers, who will take orders from the inspectors and will have military rank and a small salary. The work will be done as laid out and specified by a corps of engineers appointed by the director, all works to be approved by the director before they are begun.

Dykes will be built in ways which will give maximum economy in the places where they are situated. Contrary to statements of the Conservancy engineer's report (P. 67), houses need not be a danger to the safety of dykes, but if properly built may add to their strength. Markets and villages should be encouraged to occupy properly arranged portions of the dykes, as then the people can be in a position to give constant and prompt attendance, and in times of emergencies will be near the danger points. Moreover, by building a light railway track along the tops of main dykes, the communications of the country will be greatly improved, and materials can be quickly transported when needed to repair or build dykes or other works; and the track will form a strong crest for the dyke.

Wherever possible, bamboos should be planted at once along the bases of river-slopes of main dykes, as they will prevent strong currents against the dykes, and their roots will bind the soil so that no current can cut through. The inner slopes should be planted with some grass or bush that cattle cannot eat, but must not be cultivated in any other way, as any loosening of the top-soil is to be strictly prevented.

Spur-dykes may be used in many cases, to force the current to deposit sand against the dykes, and so build them up gradually. This method will add to the strength of all dykes in exposed reaches of the streams, and will cost very little. All main dykes now having full sections (3 horizontal to 1 vertical), may have their heights increased several feet by means of concrete shells, properly placed and filled with sand. This will, in places where clay is difficult to get, be more economical than the earth-fill with full 3:1 slopes, and can be built quickly and maintained at very small cost. Other such methods may be employed, but these are sufficient to give some idea of what may be done to improve

present methods, at reasonable cost and, principally, by use of Chinese methods, modified to give best results.

Next is the management of the dyke-system. Frequently floods persist at a high level for several weeks, and though the dykes hold out the flood-waters, surface water collects in the basins to such an extent as to drown the crops. Two feet of water over rice for two days will kill it just as thoroughly as twenty feet for the same time. So, during floods, when the surface water has reached a height where the crops are ruined by it, the inspector should at once have the gates opened and let the basin be *fully* flooded. The benefits from this would be: (a) that the flood would be relieved and the run-off accelerated; (b) that the rich mud carried by the flood would be deposited on the fields, to fertilize the soil and raise the ground levels; (c) that the mud would be kept out of the channels, and so not help to extend the delta and raise the river-bed and later flood-levels, as occurs now. To make this possible, some flood-gates that may be opened or closed at any stage of the water must be put in for each basin; but such gates will be of small size and need not cost much, and the benefits to be derived will soon repay their cost.

Moreover, in cases of extremely high floods, when it appears that the dykes may be topped, the inspector may flood one or more basins for the purpose of lowering the flood-level, the land-owners in such flooded basins to receive some compensation for damages, if by this means other basins are saved; and during later floods, basins not flooded must take their turns at being flooded, when necessary. In extreme cases, the director may flood the whole district, to save the dykes and other districts. It will be a great co-operative system, in which every part depends upon and aids all other parts; not the selfish, heedless, each-for-himself confusion that now rules.

Second.—Afforestation or Planting of Eroded Areas.—Immediately following the repair of dykes, the planting of all eroded areas and bare slopes within the water-sheds should be started. For this a small staff of trained men, working under the chief engineer, would be required. Eroded slopes would be attended to first, and covered with certain forms of coarse grasses, which are very hardy and can be easily obtained and started. Later, after erosion has been partly checked, trees will be gradually set out, and all slopes now covered with grass, but treeless, will be planted gradually at the same time. Tree planting, if properly carried out, is very easy and costs little here. Thus, ten thousand young eucalyptus trees, such as we have here, can be planted and given attention for two years at a cost of about \$200, or two cents each, allowing ten per cent. loss. They are then poles worth about ten cents each, and need no further care. This is for a first lot. Later plantings will be made from seeds produced here, saving cost of importing seeds; and as the system develops and the men become expert, the cost per tree will be much less. But after the sixth or eighth year, cuttings will be made to thin the groves, and the poles cut will bring a good price in the market, and pay back many times the cost of production, allowing for as much as fifty per cent. loss, which is excessive. As shown above, we may spend five million dollars, at least, to reduce flood-levels in Canton delta alone by one foot. For that sum we can plant 250,000,000 trees. These, planted 8 Chinese feet apart in squares, would cover an area of 4,938 sq. *li*; or a tract 100 *li* long by 49.4 *li* wide. This would stop an immense amount of siltage, and might lower the floods *in time*, by one foot or even more, by preventing filling up of channels by sand-bars.

Any appreciable reduction of flood-levels from such plantings will occur only after fifty or sixty years; but erosion, and the resulting siltage of channels and consequent rising of the flood-levels, will be checked within a much shorter period. The work should be started on a modest scale, but with a proper organization, *at once*, and be carried on steadily to completion. This climate, above all others, favors this method of flood-regulation.

Third.—Reservoirs.—These may be divided into two classes: (a) Storage reservoirs; (b) settling basins. Storage reservoirs are for the purpose of storing water in time of flood, to lower flood-levels; and to hold water for use in seasons of low water. Their effect is quite positive, and wherever natural conditions favor, they should be begun immediately after afforestation is well started. In situations where, by furnishing power or for other reasons, they can be useful immediately, they should be

begun as soon as funds are available. Such works are quite different from the dyke-systems, in that they serve their purpose individually, from the time they are completed, and do not depend upon a system, though they will be controlled as a system when a number of them are ready for use. Thus the reservoir-system may be gradually built up, as funds can be collected; while the whole dyke-system, as shown, must progress uniformly in all its parts at once—or fail.

Settling basins are temporary reservoirs, built cheaply on waste lands or poor agricultural lands, to hold back the water so that sediment is deposited and kept out of the main channels. They are placed only on streams carrying quantities of silt; and after they are filled with deposited sediment the stream is diverted to a side channel, and the land, greatly enriched, is returned to agricultural uses. This process would not be costly here, as dams are of the cheapest type, and, being temporary, can be placed in most advantageous situations; and this filling-process may be repeated as often as may be required. This type of reservoir should be started immediately, and be developed gradually to control siltage in all small streams now throwing sediment into main channels; and should be continued until the streams run clear in times of flood. After that it may be found profitable to put storage-reservoirs in such streams; but no permanent storage-reservoir should be built on a stream that carries sediment, as in such cases the reservoir will gradually fill with deposited mud and will lose its storage capacity.

Fourth.—Improving Channels.—Dredging or any such methods would be very expensive and give only temporary relief; but by the use of spur—or wing-dams—the rivers could be made to scour their own channels. In such ways the flood could be held to its present maximum, at least, by clearing the sandbars away to the sea more rapidly; and the extra depth of water in the channels, thus secured, would put an end to present troubles of navigation at times of low water. Such work would not cost much and should be begun at once where most needed, and be extended gradually to cover all channels.

Straightening some of the lower channels may give great relief in aiding rapidity of run-off. Thus, the broad channel from Samshui and Sainam to Luklao would (and originally did) take the whole flow from the North River, and so prevent flooding of the Canton-Fatshan district, if it were not contracted at Luklao. By straightening and widening (between dykes) the narrow, crooked channel at Luklao, and opening it into the broad channel to the south, the floods could pass off more rapidly, and so would not reach as high level as at present. A few other channels can be treated in a similar manner. But such works can wait until some progress has been made in more urgently needed improvements, as suggested above.

This letter being already too long, further details will be omitted here. The above are presented merely as examples of possible solutions of the flood problem, and to prove that the dyke-system, while of great importance, are not by any means the solution, and never will be. Many other ways to gain control, or partial control, over the floods will appear as the work progresses and studies are made of all details. The cost of such works will necessarily be great, and the government must give full support. But one or two big floods will destroy property of greater total value than the cost of several such systems as here suggested, and again break up the dykes; and then there would be nothing to show for wasted efforts and expense. Whereas a successful system, though it may be very costly and require fifty, or even one hundred, years to perfect, would in the end "stay put", and would cost nothing more in troubles or losses to the people who will be here then.

If the criticism is made that methods suggested above will be, in any case, too costly, it should be remembered that, as already shown, adding one foot to the height of main dykes in Canton delta alone would require at least \$5,000,000 (probably three or four times this sum), and will only give *temporary relief*; so that *any means by which the floods could be lowered one foot, would warrant an expenditure of at least \$5,000,000.* The whole matter should be investigated on that basis; and properly carried out, this system will give maximum results for the amounts spent, *whatever they may finally be.*

Bank of Taiwan's Semi-Annual Record

The Bank of Taiwan held a semi-annual shareholders' meeting in Tokyo on September 2, at which the condition of business of the bank during the half-year from January 1 until June 30 was reported. The net profit of the bank amounted to Yen 1,497,435.70, the gross profits having been Yen 32,636,326.26 and the gross expense Yen 31,138,790.53. Adding Yen 392,929.88 which was brought forward from the last semi-annual term, the total amount of Yen 1,890,365.61 was disposed of variously, including Yen 1,018,000 for dividend payment to shareholders, and Yen 600,000 for bonuses to officers and employees and other minor items. The dividend amounted to 10 per cent. per annum.

Mr. Tetsutaro Sakurai, the president, reviewed the economic and financial conditions of Formosa, Japan proper and elsewhere where the bank had business dealings as well as the business condition of the bank in a brief statement. In spite of various disquieting elements, such as the American restrictions of trade, rumors of Russo-German separate peace, Japanese intervention, rise of prices, etc., the trade condition of Japan was generally favorable, he said. The excess of exports decreased by Yen 200,000,000 compared with the corresponding period of last year, but there have been increases of charterage of ships, insurance charges, etc., whereby capital became abundant in Japan and investment abroad became lively.

The Formosan trade during the half-year totalled Yen 137,900,000, of which exports to foreign countries and Japan was Yen 84,400,000 and imports Yen 53,400,000. Sugar, camphor, wheat, flour decreased, in exportation, but the importation of rice, iron materials, cotton goods, lumber, oil cakes, leaf tobacco, etc., increased, as compared with the corresponding period of last year, so that there has been an increase in the total trade of Formosa of Yen 300,000. Exports of Oolong tea increased owing to good crop and the increased demand abroad. Exports of coal increased because of the increased demand in China, Hongkong, the Philippines, etc. The investment of the bank during the period under review amounted in all to Yen 122,200,000, which was an increase of Yen 23,400,000.

Railway building, road construction, and other governmental undertakings in Formosa reported progress, whereas new industrial companies for coal mining and chemical works have established there numbering more than 30, the total capitalization amounting to Yen 12,400,000. The bank has assisted in these enterprises.

The bank's note issue increased owing to the economic prosperity of Formosa, and the extra-limit issue has been continued until it became unnecessary when by the new law regarding bank which was promulgated on March 30 the limit of issue guaranteed by the government was increased to Yen 20,000,000. The average amount of notes issued during the period was Yen 31,400,000, an increase of Yen 7,800,000 over the corresponding period of last year.

Mr. Sakurai further on reviewed the trade conditions of Japan with China, which was affected by the rise of price of silver, and also the trade with south sea countries. He also reviewed the condition of exchange transactions which was affected by the violent fluctuations of exchange rates. The Bank of Taiwan had newly opened a branch in Batavia to assist in facilitating exchange transactions in view of the cotton trade with India and of the trade with south sea countries, with which exchanges needed to be adjusted. In this connection, the bank had done much to adjust exchanges with America, England and other countries through the branches in New York, London and other centres. The total amount of exchange transactions of the bank during the period was Yen 808,900,000 in round figure, and increase of Yen 407,200,000 over the corresponding period of last year.

The investments of the bank in foreign countries during the period amounted to a total of Yen 32,800,000, and the bank further making endeavors to facilitate the Japanese enterprises in south sea countries in sugar, rubber, etc.

In short, Mr. Sakurai summed up, the bank has done a prosperous business in spite of various disquieting elements and has shown the result as briefly summarized before.

The Rice Problem in Japan

Government Manipulation Failed to Regulate the Price of Rice and Riots Followed

The following is an article written by a Japanese journalist who is well acquainted with economic and financial matters in Japan. It is a history of the rice problem in Japan since the days of the Okuma Administration, leading down to the recent rice riots. It is as interesting reading matter as it is a reference on the rice question in that country.

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The food problem has claimed the serious attention of the Japanese nation several times since the outbreak of the present war, but it was never so serious as in recent months, when it culminated in a general uprising of the poor. The recent developments have demonstrated that the Terauchi Administration is largely responsible for the gravity of the situation. It has also become all the clearer that the structure of Japanese society is defective, which helped to hasten the crisis.

Rice was too Cheap in 1914

In Japan the food problem is chiefly the problem of rice. Just before the outbreak of the war rice was the subject of Japanese discussion, not because dear rice troubled the poor, but because cheap rice was thought to be threatening the rural districts with ruin and desolation. The rice crops in 1913 were far above normal and reached 50,255,267 *koku* (4.962 bushels equal one *koku*), although in the northeastern provinces the farmers were confronted with serious difficulties because of early cold and poor harvest. For this latter reason, the majority of the merchants in the grain market were of the opinion that rice would be dear in 1914, but they were mistaken. Poor farmers in the northeastern provinces and the rice dealers were compelled to seek in barley a substitute for rice because they were not prosperous and the consumption of rice thus fell off. The market was accordingly flooded with cargo.

In February, 1914, the standard price on the Tokyo Rice Exchange shot up to Y.18.99 per *koku* and on the spot market up to Y.20.10 per *koku*, but after that the average came down steadily, and in May, when the price on the Exchange came down to Y.15.16 and on the spot market to Y.15.90, a panic visited the grain trade and rural districts. Many big holders quickly came to grief. Bankers in agricultural centres were also troubled with the increase in bad loans.

When the outbreak of the European war was expected, the panic in the grain trade was much more intensified in Japan, because, owing to the favorable weather conditions, the year's paddy crop was anticipated to be excellent. On the Tokyo Rice and Produce Exchange futures slumped heavily to Y.14.78. Japan's declaration of war on Germany once arrested this adverse tendency and the price picked up to Y.17.55, but that proved only a cause for a heavier slump, for the year's official forecast placed the crop at 57,800,000 *koku* immediately after this improvement, and gave a shock to many bankers and holders who had held their cargo on the score of the temporary revival. The second official forecast soon issued reported a decline in the estimated crop, but that was not enough to arrest the decline. At the close of October, two months after the outbreak of the war, the price on the Exchange reached Y.13.35 while that on the spot market was Y.12.80.

The Government takes a Hand

This slump in rice was the cause of financial disasters to provincial bankers dealing with farmers and rural landed proprietors. It was a well-known fact that the retrenchment in administrative expenses by the Government, the conservative policies followed by the business world as a reaction against the boom after the Russo-Japanese war, and other minor causes were largely responsible for the panic in the grain trade, but the

Government and politicians representing agrarian interests misconstrued this temporary mishap to the rural financiers and capitalists as a sign of decay in the agricultural districts and of a modern industrial revolution in Japan. They thought that the appreciation in the price of rice would relieve the condition of farmers and stop the decay of agricultural industries. Towards the end of 1914 the Okuma Administration appointed a committee to investigate the problem. It was decided to buy up and retain rice in the Government warehouses till prices went up. This simple but ineffectual plan was carried out in January of the next year. According to an official report issued by the succeeding Terauchi Administration, toward the close of the following year 302,162 *koku* in round figures was purchased by the Okuma Administration at the cost of Y.4,193,285 in round figures. By this deal the Treasury suffered a loss of about Y.559,984. However, not much result was obtained. Spot prices ranged between Y.14.16 and Y.13.31 up to August when the year's new crop was awaited and sometimes prices came down to the level of Y.12. Farmers' conditions were not at all improved and the exodus of rural labourers into industrial towns continued. The official report for 1915 shows that the number of families owning and farming their own land fell off and tenant farmers became more numerous. The size of their land holding, too, was reduced.

In 1914 the number of families owning land was still 1,728,692, but in the following year it fell to 1,718,923. Tenant farmers' households on the other hand increased from 1,517,520 in 1914 to 1,522,814. While the owners of land above 50 *cho* (*cho* equals 2.450 acres) decreased from 3,450 in 1914 to 3,308 in 1915, the owners of small estates below 5 *tan* (*tan* equals 0.245 acre) increased from 2,367,500 to 2,367,089. The farmers' indebtedness also increased during the year, being estimated at Y.355,000,000.

The already confused and superficial remedies were supplemented with a number of Government instructions and advices from local unions of farmers, either encouraging diversification or improvement in fertilizers. The reclamation of wild or waste land was also urged. But this advice produced no wholesome effect on farmers or agricultural districts.

Measures to Raise the Price

However, in September, 1916, the measures drafted by the committee appointed by the Okuma Administration for the regulation or rather appreciation of the price of rice had some effect. Coupled with some other potent factors they were largely instrumental in complicating the food problem in Japan. In the first place the committee advised the administration to advance funds at low interest to farmers to enable them to hold their rice until prices would rise to the limit. In the second place, the additional capital at 7 per cent. thus gained and the advice to hold supplies were supplemented with the high protective tariff against foreign rice. The third measure was the encouragement of export, which was also to be applied to rice from Chosen and Taiwan. In the opinion of the committee, who believed that the principal cause of cheap rice was the supply in excess of demand and had a mistaken idea regarding the condition of farmers, the exclusion of foreign rice and the exportation of domestic rice was a source of happiness to the farmers and consequently to the nation generally; for they thought that the prosperity of the nation depended upon the farmers' prosperity.

The committee's plan also included the establishment of public granaries, which would encourage the holding of rice, readjustment of the spot bargain market, correction of the taxation system in rural districts and encouragement of the use of rice in the industries. But the three measures mentioned in the foregoing paragraph were the principal items in this pro-agrarian policy, which has been followed by the Government without seeing the real causes for the apprehended decay in rural occupations and the low price of paddy.

The following table shows the condition of the rice market up to the close of 1916 when the price of rice began to rise again and the output of rice in Japan was too small to be exported even with the systematic backing of the Government:—

Years	Yield <i>koku</i>	Consumption at home <i>koku</i>	Deficit <i>koku</i>	Average price Yen
1907	49,052,000	51,813,000	2,761,000	16.48
1908	51,933,000	54,105,000	2,172,000	14.59
1909	52,438,000	53,410,000	972,000	11.36
1910	46,633,000	49,500,000	2,867,000	16.39
1911	51,695,000	53,859,000	2,164,000	19.73
1912	50,227,000	54,520,000	4,293,000	21.46
1913	57,006,000	54,780,000	4,325,000	18.52
1914	57,006,000	59,482,000	2,466,000	13.50
1915	55,924,000	56,640,000	716,000	12.82
1916	58,443,000	59,818,000	1,375,000	17.02

The rice crop last year was officially estimated at 54,559,000 *koku* and there was a decrease of 3,883,000 *koku* from the previous year, although still an increase of 1,517,000 *koku* above the normal. The consumption was estimated on the other hand at 60,691,000 *koku*. Therefore there was a deficit of 6,122,000 *koku*. The price on the Tokyo Rice and Produce Exchange at the close of the year was on the level of Y.23.80. From the foregoing table it will be seen that the fluctuation in crops is one of the causes of fluctuations in price, although there are other contributing causes.

Prices Begin to Rise

Up to the beginning of the winter of 1916 prices remained comparatively low but in November the highest average on the Tokyo Rice and Produce Exchange rose to Y.18.22 per *koku*. In December it advanced further up to Y.19.22. The bulls in the market enthusiastically bid for buying accounts and, as their reason, pointed out a serious decrease in supplies. In February last year the Government published a highly optimistic crop report and gave a blow to those men, but the effect was not lasting. During February and March the prices on the Exchange ranged between Y.16.86 and Y.15.67 but in April again the soaring tendency began to be in evidence and the high level of Y.17.44 was reached.

In May, 1917, there was a further jump to Y.20.75 per *koku*, but the average price of other commodities was climbing up with a quicker step and even this high price for rice was low beside the figures for other commodities. This was an excellent chance for speculators, who were capitalized freely by bankers at cheap rates. Farmers joined these speculators in boosting up prices by their attempt at holding speculatively as taught by the Government commission. To help in their operations to appreciate the value of rice the Terauchi Administration took a practical step to encourage the export of grain, and exported itself the rice bought by the Okuma Administration.

Rice Begins to Boom

In June and July, 1917, there was a violent boom in the rice market and consequently an acute uneasiness among the middle and lower classes. On the Tokyo Rice and Produce Exchange prices ranged between Y.23 and Y.24 and toward the close of the latter month the high plane of Y.24.72 was reached. It was Y.1.07 above the last highest mark on the market, registered in January, 1912. Although in August speculators were fearful of public resentment and their operations were less active, the consequent drop was not sufficiently substantial to satisfy public opinion and the Terauchi Administration was censured quite vehemently for its mistaken foodstuff policy. A crisis actually came and the insufficient and superficial measures adopted by the Terauchi Administration to deal with it has been held responsible for the present more acute and grave situation.

As may have been seen from the brief description of the history of the food trouble the actual shortage in rice supplies in this country, the mistaken encouragement of export by the Government, the speculation by dealers and farmers backed up by the flood of idle capital in the country, and the so-called corrective measures piled up by the Terauchi Administration were the principal causes of the food troubles. The position of Japan respecting her food supply was summarized by a well-known

agricultural expert recently in one of his speeches. He said that the average amount of rice turned out in the country annually is 53,000,000 *koku* which is an increase of 9,000,000 *koku* compared with ten years ago. This heavy increase is mainly attributable to the gradual improvement in the species of paddies, the readjustment of farms, the better method of manuring, the use of more scientific methods of cultivation, the enlargement of arable land, and other minor causes, and it is believed that as long as these causes are at work the crop of rice in Japan may go on increasing. However, at present, even in spite of the increase, the crop in the country cannot feed the whole population without importation of 2,000,000 *koku* from Chosen and 600,000 *koku* from Taiwan. If the population is to increase at the present rate the expert believes that Japan must depend on colonial rice more than ever in future. The rate of increase of domestic production of rice cannot be so great as that of the population.

Evidently Japan is not in a position to place its rice on the foreign market, and she should be a buyer of colonial or foreign rice. But when the crisis came last year the Government did not take any measure to stop the export of rice or economize the use of the existing stock. The annual consumption of rice by distillers of *sake* is roughly estimated at 3,000,000 *koku* to 4,000,000 *koku* and stoppage of this use of the grain could fairly have made good the shortage, but the Government not only did not stop free consumption by the distillers but even encouraged it for the sake of the taxation. The Government helped distillers even by enlarging the Government distilling laboratory, a unique institution in the world. The tariff on foreign rice was not reduced in spite of the public demand to let in foreign rice more freely by a tariff reduction.

Complicated by Exportation

The Administration, struck with the export craze immediately after the outbreak of the war and rejoicing over the novel experience of being a creditor in the international exchange market, went on encouraging the export of rice and other grains and the increase in the cost of rice only proved an inducement to them for further efforts. The official trade returns for the past five years stand as a good testimonial to the official endeavors in this line. In the following table the rice trade for the year is summarized:—

Year	Exports <i>koku</i>	Imports <i>koku</i>
1913	204,000	3,637,000
1914	260,000	2,022,000
1915	662,000	457,000
1916	686,000	309,000
1917	769,000	564,000

The increasing exportation of rice was coupled with that of other foodstuffs. Hokkaido farmers last year sold everything they could and there cropped up a number of farmer millionaires. The shortage created by this export craze in beans, peas, potatoes, and starch, in its turn, brought about a big boom in all these goods. By encouraging farmers to ship more of them and get rich quickly this big boom again aggravated the shortage in those articles. Starch was up to Y.15 per picul. Beans were also up and surpassed the level attained by that article. Under the pretext of helping foreign nations short of food some big exporters shipped flour. The price of flour was thereby more than doubled and in its turn appreciated the prices of wheat and then in sympathy barley and rye advanced abnormally.

Cheap Money Aided Speculators

The increasing export trade in foodstuffs and the resulting shortage in Japan, coupled with the reduced crop of rice in 1917, gave a strong pretext to speculators. These men were helped by the Government in this operation, for the Government zealously endeavored to keep money cheap and credit easy and create easy opportunity for speculation although honestly aiming to promote commerce and industry. In August, 1917, when the crisis came in the rice market, the money market was flooded with unemployed capital as the result of the constant increase in exports and the restriction of import trade. The issue of notes by the Bank of Japan reached to Y.679,850,000 against Y.281,436,000 shortly after the outbreak of war, viz., in November, 1914.

It was well known at the time that the best and surest remedy lay in the contraction of credit and the maintenance of a normal supply of money. However, the Government tried to cope with the problem by the proclamation of a decree on September to punish profiteers in some lines. Matters got all the worse. Crafty speculators and dealers had their devices to dodge such a lukewarm measure. A few days after the proclamation of this decree the Government published a crop forecast estimating the yield of the year at 59,300,000 *koku*, but the speculators ignored it by boosting up prices to the level of Y.22 per *koku*.

The Government had to take a more radical and effective measure to cope with the gold ban by the United States in September than by a similar nominal proclamation. As the encouragement of export was continued under the changed and grave circumstances, the Yokohama Specie Bank was soon saddled with the unremittable gold in New York and London and its funds with which to buy export drafts were almost exhausted. The solution of this problem was again sought by the Government in a wrong direction. Instead of adjusting the export trade to the requirements of the new times the Government took over the unremittable gold from the exchange bank and the Treasury's money came out into the market. The Bank of Japan was also made to advance money to the exchange bank and by leaps and bounds the issue of notes increased. Since this policy has been persistently followed under the only reason that the export trade should be extended at all costs and that it is for the nation's ultimate benefit, the cost of living has proportionately risen.

On October 2, 1917, the rice market experienced a spectacular boom because of the typhoon which worked great havoc all over the country. In a single day the price jumped up by Y.1 to Y.23.14. The Government tried to arrest the soaring price by closing the Tokyo Rice and Produce Exchange while the general public started the discount sale of grains, vegetables and other daily necessities. On the reopening of the Exchange, however, the price soared up higher to Y.24.20. Although a reaction came on later it did not last long and in the middle of November, when a reduced crop was reported, the higher rate of Y.24.34 was reached. At the close of the year again there was a reaction, but then the price was still Y.23.90.

In January, 1918, the situation in the rice market became more acute. As a protest against the Government's superficial but drastic measures to persecute the rice men, the bulls on the Tokyo Rice and Produce Exchange boosted up the price to Y.25.65. At this time another factor appeared in the market, which was more powerful than those already in evidence. On the spot bargain market the average price reached Y.24.40. The highest grade was even quoted at Y.26.20 per *koku*. This was attributed to the farmers holding their cargo for speculation and the resultant reduction in arrivals.

Farmers, or rather landed proprietors, having been given advances at low interest and taught to speculate in their produce by the Government, thought they were on the right line in retaining their rice and wheat for speculation; but they could not carry out this manœuvring with their limited means. About this time their purses got longer as war prosperity became more universal through the successive booms in the raw silk trade, and money flowed fast into rural districts. The constant rise in the price of rice during the latter half of last year further increased prosperity among the farmers.

Mr. Gentaro Shimura, Governor of the Hypothec Bank of Japan, clearly outlined the change among farmers and its effect on the general economic situation in his speech at the bank's meeting in July, this year. He stated in part that during the first half of this year economic circles in Japan were favorable as a whole but that under this cover of prosperity signs of uneasiness and anxiety were noticed. The money market in Tokyo and Osaka got firmer and tighter and induced bankers to be prepared for to-morrow by absorbing more and more deposits. In rural districts, on the contrary, the money market was becoming easier with the ever-increasing hoard of unemployed capital in banks. Deposit rates in rural districts, which formerly were much higher than in industrial towns, got much lower and in some parts of the country they were even below those in industrial towns. Deposits with industrial co-operative clubs were also increasing apace.

This reflected the striking improvement in the financial condition of farmers, continued Mr. Shimura. On account of the quickly-succeeding booms in raw silk, rice, flour, and other produce, the farmers' income had increased and their condition was excellent. In their hands now a huge hoard of floating cash awaited employment. In this connection it is to be noted that the greatest part of the debentures marketed by Mr. Shimura's Bank in March found buyers in rural districts. Demand for money from rural districts also fell off. Instead of asking for loans farmers steadily repaid their old debts. During the first half of this year the refunded debts amounted to Y.25,000,000 which practically represented a year's loans to farmers before the war.

On the strength of this increasing capital on hand farmers began to carry out one of the suggestions made by the Government committee. Those people, moreover, it is generally believed among a large section of the Japanese, had their spokesmen in the Imperial Diet, the Seiyukai Party. During the parliamentary season in the spring of this year, the rice question was brought up for discussion several times in the House of Representatives, but reference to the tariff question was carefully avoided by the majority party. Rather, discussion was centred around the lawfulness of the decree to punish profiteers.

Attempted Government Control of Rice Exchanges

Toward the close of January, the Minister of Agriculture and Commerce tried to arrest the soaring tendency in the rice market by serving a warning upon the leader of the bulls on the Tokyo Rice and Produce Exchange. The result of the endeavor was not what was desired by the Minister of Agriculture and Commerce. The Tokyo Rice and Produce Exchange was seized with a panic and was compelled to close its door for four days. When it resumed business on February 2 a record-breaking price of Y.25.47 per *koku* was scored, which surprised the Minister of Agriculture and Commerce. With sharp booms in quick succession the price on February 21 was on the level of Y.25.90 per *koku*. At first the market apprehended that the actual application of the decree to control profiteers would be followed with a more radical and effective measure and business was conducted with caution so as to avert it, but this apprehension proved to be too premature. Accordingly, on March 1, the market sent up futures to Y.26.

On the spot bargain market, where the Government took absolutely no corrective step, the boom was more extraordinary. Wholesale merchants advanced their prices almost daily on the ground that farmers and holders in the provinces were firmly resolved to hold their cargo and not to sell a bit. The Government, which had attributed the boom to speculation and punished the bulls' leader, now tried to relieve the acute situation by the adjustment of carrying facilities. This temporising measure was opposed by the merchants' crafty attempts at holding on to the cargo as it was about to be carried off from the market, and there was a shortage as great as ever. The Government campaign against speculators having kept the price on the Tokyo Rice and Produce Exchange comparatively low, rural holders of means started buying on the Exchange rather than forwarding the cargo they held, and in every way the new Government measure was a failure.

Record-making Prices

In the early part of March, the Government issued an instruction to provincial officials to keep the price of rice low. The export of rice was also placed under official control. However, on March 8, futures reached Y.26.86 per *koku*. Spot cargo also was at Y.26.80 per *koku* which figure had no equal in the history of the grain trade in Japan. Towards the close of the month, again there was a high jump to Y.27 in spot cargo but on the Tokyo Rice and Produce Exchange another temporising measure was introduced by the Government, in the lowering of the standard for delivery, and confusion reigned again for several days.

April was marked with another record jump in prices. The Government issued other instructions designed to lower the cost of living, but they were received with indifference by the public.

The vacillating authorities, it was suspected, were only pretending to mind the public welfare. The people who suffered from the rapidly increasing cost of living completely despaired, while holders and merchants became bolder in their manœuvring. In the middle of April, all former records were again broken when futures were quoted at Y.27.80 per *koku*. Although the Tokyo Rice and Produce Exchange was ordered to stop dealings in immediate delivery the general tendency in the market was very little affected and, when the Government proclaimed the plan of importing and selling foreign rice, the spot market even registered a new record price. Farmers were confident of their prospects seeing the Government adopting this measure rather than a more effective plan of suspending the levy of import tariff on grains, and their sales fell off.

On May 6 the Tokyo Rice and Produce Exchange registered another record price of 27.39 and surprised the public. The spot market by this time was going ahead of the futures market, as the Government tried no coercive measure there, and on the same day the average was Y.28.40 per *koku*. On the following day, however, the official maximum price of foreign rice was proclaimed at Y.21 per *koku*, and its effect was felt. However, on May 20, when the sale of foreign rice was actually started, the market resumed its soaring tendency, for the new measure had little prospect of success.

June of this year was spent by the Government in oppressing the rice exchange and cornering colonial rice in Chosen. Brokers on the exchanges were ordered to stop their old practice of settling petty accounts outside as it gave them a chance to gamble beyond their capacity on the bullish side. The exchanges at Nagoya and Kuwana were compelled to close for several days. These measures, coupled with the quick carrying of rice by the railways, caused the market to be irregular and unsettled, but the spot bargain market continued its soaring tendency till it scored another record price of Y.28.60 per *koku*.

Having become desperate with this steady soaring of the cost of living laborers started trouble and during the latter part of that month, June, mention of strikes appeared in newspapers almost every day.

In July the Government oppression of the rice exchanges became more severe. The Osaka Dojima Rice Exchange was visited with confusion on July 6 and its doors were closed. Some speculators there, on the strength of the backing of the Government, started huge bearish operations and during the first six days the house scored slumps. On the pretext of arresting the unhealthy tendencies there, the Government ordered the house to be closed till August 16. On July 8, the Osaka bears extended their campaign to Tokyo, and threw the Tokyo Exchange into confusion. The Tokyo market was closed till July 10 and good results were expected, but the Government having declared its intention not to back up the bears, the market resumed its soaring tendency and prices went up quickly. Rice exchange quotations in all cities and towns mounted up quickly and kept pace with Tokyo. At this point 22 exchanges out of 33 in the country were ordered to suspend business by the Government.

Spot Cargo went to Yen 40

Failing in this latest oppressive measure, the Government issued another decree to take a census of the rice held by the merchants and farmers, but this measure was also made use of for the further boosting of prices, for the market declared the measure to be the open recognition by the authorities of the scarcity of food in Japan. On July 23, the level of Y.30 per *koku* was reached. This was followed with another blunder on the part of the authorities. The minds of the people, having been stirred up by reports of Siberian intervention, the holders of rice received an impression that a new demand for rice would spring up on a big scale. A week later another high level of Y.31.20 was reached while spot cargo was up to Y.40. The Government tried to prevent the spread of the scare created by this rapid rise by prohibiting the publication of wholesale prices and retail rates by the unions of rice dealers. Then wholesale merchants themselves were frightened by the rapid decrease in arrivals and co-operated with the Government in preventing speculative purchases in the spot bargain market.

Then the Riots

On August 3, 1918, when the hunger riots were started by a mob of fishermen's wives in a small fishing village in Toyama prefecture, retail prices were above Y.50 per *koku*. The riots spread fast as the officials failed to handle the complaints of the hungry women, and by the middle of August there were 23 prefectures involved in the trouble. At Kobe, Osaka, Kyoto and later at Nagoya the rioters turned their anger on the rich. In Kyushu the riots lasted far into September and the miners fought with dynamite. Their riots were a demonstration of labor against capital while the riots at Osaka, Nagoya and Kobe were a war of the poor against the rich.

Having been surprised at this turn taken by the rice problem, the Terauchi Administration persecuted the speculators more severely, and during August only a few of the 33 rice exchanges in this country were allowed to do business. Prefectural officials were instructed to gather money from charity and sell rice at a discount to the poor and needy. As those measures failed, the Government proclaimed a decree to commandeer rice, but it was not of a compulsory nature. An apologetic statement was issued by the Minister of Finance against the charge of Governmental incompetence in dealing with the acute problem of the high cost of living, but it failed to impress the public with the competency of the Government, for the Finance Minister still adhered in that statement to his craze for export and failed to see the paradox of it.

During the riots the price of rice tended downward, but when the trouble was coming to a close and the Government had exposed its incompetency to deal with the newspapers regarding the censorship of riot news, the boom was resumed. Only toward the close of August did the publication of the official maximum prices arrest the boom in the rice exchanges.

The present problem is a very complex one but the cause of its recent complication and the resulting initiation of the class war in Japan were largely attributable to the lack of foresight and courage on the part of the Government. It is also attributable to the bureaucratic idea prevalent among officials that the people can be directed or guided by but not made to share in the handling of state affairs. The authorities have been completely fooled by the crafty merchants.

In solving this urgent problem, Japan needs more courageous men of foresight who can fight special interests on behalf of the people. Towards the permanent solution of it, too, weak and vacillating statesmen are not calculated to contribute any part, for it demands a more radical readjustment of finance and commerce, a more harmonious and closer union of the mother country and the colonies on which new Japan must depend for food, and the regulation of the relations between classes and industries and agriculture.

Japan Imports About Yen 100,000,000 Worth of Fertilizer

During the first half of this year, Japan imported about 820,000 tons of fertilizer, valued at Yen 64,000,000, according to an investigation made by the Department of Agriculture and Commerce of that country.

Compared with the corresponding period of last year, during which about 760,000 tons, valued at Yen 42,050,000, was imported, there has been an increase of about 60,000 tons in volume and Yen 22,880,000 in value. The chief increase was in bean cakes, amounting to Yen 20,510,000 and phosphites, Yen 770,000, etc. Sulphate of ammonia decreased by Yen 2,287,000. There have been a few other articles which increased or decreased in importation. Exports of fertilizer amounted to Yen 506,000, which was a considerable decrease compared with Yen 923,000 of the corresponding period of last year. This decrease was due to the restrictions placed upon exportation of superphosphate, sulphate of ammonia, etc.

At the rate of importation during the first half of the year, it is believed that the amount for the whole year will total more than Yen 100,000,000. To compare with the previous year:

Imports			Exports		
		Yen			Yen
1917	...	78,186,300	1917	...	2,310,306
1916	...	60,902,284	1916	...	4,127,635

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Need of Allied Mediation in China

The political situation in China has developed to the stage where drastic action will have to be taken to effect a settlement. It is fairly conclusive that the Chinese themselves cannot work out a permanent solution. If left to themselves they will eventually be driven to a compromise, and in compromising they are adepts. They can compromise with anyone and anything. Their facility in this direction is responsible for the serious straits in which the nation now finds itself. No party, no combination, no assemblage of men in China can command the essentials to achieve victory for a national cause. The vast mass of people do not trust any clique of officials or any group of politicians, and without popular support no cause can triumph. The people of China have suffered so bitterly in the recent past from attempts of reformers to assert themselves, and from militarists and officials opposing the reformers, that they despair of any relief, and flee from overtures for support as they would from a plague. They have bitterly suffered at the hands of soldiers, and they have paid heavily for the campaigns to establish governments. And now they want none of it. Their desire is to be left entirely alone. So far as they are concerned the politicians can fight their battles themselves—and the politicians have been hard at it for several years and have got no further forward—nor will they. There are schisms in the northern party and schisms in the southern. Neither possesses the power to win, and the end will be a compromise which will last only till one party or the other imagines itself strong enough to oust its opponent. Another revolution will then be launched, and once again the turmoil of the past seven years will be repeated.

The time has now come for serious consideration of the whole scheme of things with a view to a permanent settlement of differences. There must be a stable constitutional government established in China. That is the first consideration. If China is to have any share in the great Peace Conference, which we hope is not now so far off, she must bend every effort to straightening out her affairs. China has done nothing to aid the Allies, and her declaration of war on the Central Powers has

been a farce. The good that China can get from her entrance into the war on the side of the Allies is a proper adjustment of her international relations, and this adjustment can only be effected at and by the Peace Conference or by some specially appointed International Conference to deal with the problems of the Far East. If China is in turmoil when the European war ends she will have no status at the Peace Conference, and the benefits she might have derived will have slipped through her fingers. By some means or other the Chinese must in their own interests be compelled to see the error of their ways; must be compelled to put their house in order. The only method by which this can be accomplished is foreign mediation and foreign control of finances. It is idle further to mince words; criminal to indulge in humbug.

The Allies should, under Anglo-Saxon leadership, take in hand the settlement of China's troubles. They alone can institute a reorganization of the army, and create a national military force which will be under the orders of a properly organized constitutional government. The Chinese politicians can never if left to themselves disband the riff-raff which glorifies itself in a soldier's uniform. Some other agency must assist in that very necessary work. The only other agency is the influence of the Allies. There must be mediation; there must be a reorganization loan; and this time no such nonsense as went on with regard to the reorganization loan accorded Yuan Shih-kai. Practical hands must, in co-operation with the Chinese, undertake the complete reorganization of finances, the straightening out of the military tangle, and a general sweeping into the limbo of the grotesque administrative anachronisms which have been mill stones round this country's neck. And in this connection it must be chronicled that a large body of influential Chinese opinion is now on the side of the steps suggested; a fact which presages a far-reaching change in the nation's affairs. Hitherto few Chinese could be persuaded that foreign executive assistance would be advisable. Now large sections have been forced to recognize that their country will go to pieces unless drastic steps are taken. This variation of view is the most remarkable and hopeful feature of latter day developments, and if it expands as we hope it will friends of China may well be cheerful about the future. Allied assistance to China would be the best thing that the country could have, and there is no reason why it should be withheld. Thinking Chinese should be clamoring for it as the only salvation. Already they agree that it is the desirable solution, but what is needed is public expression of opinion and a popular agitation. The Allies themselves should proffer their good offices, and if the militarists reject the offer then all financial supplies should be stopped. The Constitutionalists must be warmly in favor of Allied help in instituting a Constitutional regime, and they need the help. Why should they not ask for it? The militarists will oppose it, of course, but the Allies are fighting militarism in Europe, and it would be worse than absurd for them to support it or consider it in China.

The "North-China Daily News," the leading and most influential British newspaper in China, strongly advocates foreign mediation in its issue of September 27, and makes the important suggestion that mediation should be Anglo-American and that Japan should stand out in her own best interests because of the mistrust which unhappily exists in China as to her intentions. The paper lays it down that "the one indispensable preliminary to a settlement (between North and South) is that General Tuan must retire" from the Premiership. "General Tuan is committed to a policy which the country will not stand and which he appears incapable of relinquishing," the "North-China Daily News" points out, though it gives the Premier full credit for patriotism. "The problem is then to induce him to realize that the country's interests demand another policy and a new hand to control it," adds the paper, "and to this end the quickest and surest way is that foreign mediation which we have repeatedly urged as the only possible means of bringing North and South together. . . . Hitherto the Allied Legations have taken the attitude that they must await an invitation from the Chinese before offering their services. This is about as reasonable as it would to say that one should wait for a drowning man's permission before diving in to save him. The fact that we are all Allies, the strong suspicion that beneath all the chaos of the past eighteen months are to be traced the workings of the dark and tortuous Hun, and the evident difficulty of finding any Chinese who could carry through the negotiations with being suspected of bias in one or another

direction, all these are valid reasons for the British and American Governments, represented as they are in China by men whom all parties would, we believe, trust implicitly, to offer their mediation. There are many factors favorable to peace, the personal liking and respect that is felt on all sides for President Hsu; the desire not only of the Yangtze Tuchuns, but of many Northern generals for peace; the wish also of the Southwest to be done with fruitless quarrels. It only remains for some one to take the lead in combining these factors into a common settlement. But that lead must come from without. It has been suggested that the desired mediation should be limited to two foreign Governments. In any case a multiplying of counsel does not add much practical result, least of all, perhaps, in China. But it is necessary to go farther. The 'North-China Daily News' cannot be accused of unfriendliness to Japan; and when we say that it is essential that Japan should not join in the mediation, we trust we shall be acquitted of anything more than presuming upon the privileges of an old friend to say what we are convinced is as much in Japan's interests as in China's. It cannot unhappily be ignored that the Chinese people are mistrustful of Japanese intentions towards themselves. The policy of the Terauchi Administration, which was repeatedly and we are sure sincerely affirmed to be the cultivation of good relations with China, has, in the circumstances of the past eighteen months, appeared to the average Chinese as only friendliness to one part of the country at the expense of another. At the same time the activity of irresponsible Japanese concession-hunters has had a further unfavorable reaction on their own country, inasmuch as it is palpable that without loans from abroad, the Tuan Cabinet could never have kept the civil war going. In these respects Tokio has been unfair to itself and has shown less than its usual far-sightedness. It is most natural that Japan should wish to occupy an important position in China's trade. But the China of to-day is not what the China of fifty years hence will be; and when the cessation of war allows American and European business men to devote their energies to China once more, a reaction may well set in against the merchants of the Island Empire. We have spoken plainly because we believe it the friendliest course to take and our frankness will not be misunderstood. Foreign mediation is in the air. It is bound to come. And if the Japanese Government states clearly that it will watch the negotiations with benevolence but that it does not propose to take a part in them, it will have made the best stroke for itself as well as for China in the history of the two countries."

China Acquires a New President

The northern military organization, still recognized by the Powers as the Government of China, through a Parliament of its own creation, elected Ex-Premier Hsu Shih-chang to the presidency of the Chinese Republic, as it is still called for want of a better name, on the 4th of September. It would be futile to pretend to regard this election as a step of any importance in China's political evolution, or as anything other than a new political manipulation on the part of the limited Tuchun clique which still has charge of the national treasury and armory. It has been clearly understood for months past that this group of military leaders and professional politicians has given China the most unsatisfactory government in her modern history and that the only reason that it continued to receive recognition from the foreign Powers was that the Chinese people, in their indifference to public affairs, failed to provide anything better for the Powers to recognize. It has been equally well understood that Parliament which this northern group conjured up as an electoral body was not strictly representative of any one but the provincial officials in that half of the provinces which chose to be represented at all, and that when the time for election came, the merits of the candidates interested the electors much less than the choice of a man whose selection would not precipitate a feud in the ranks of the northern military party. As no Chinese politician of the modern school ever ventures to have any other policy than that of day-to-day expediency, none of the candidates had anything resembling a platform to put before the electors, and

all the latter had to do was to sense the political wind from day to day until election day and then choose the man among the few candidates approved by one faction or another of the militarists whose election would be likely to cause the least dissension. This was done with all due caution and the result was the selection of Ex-Premier Hsu Shih-chang by an almost unanimous vote. This election failed to bring on a war between the northern Military Governors, as some had feared and others had hoped; it failed to bring to a head the much advertised monarchy movement, it failed to elicit from the Yangtze Valley Tuchuns any real demonstration of their intention of taking an active part in internal reform, and it gives no promise whatever of any change in Peking's ways of doing things, so the whole affair has been peculiarly uninteresting.

The outlook for an improvement in China's administrative machinery is not bright. Whatever the President-elect in his own heart hopes to do in the way of reforming the Peking Government or of effecting a compromise between the North and the South, it is scarcely likely that the militarist organization will permit him to go beyond the composition and publication of pious platitudes. Before the election there were a few who feebly hoped that, since Mr. Hsu is a veteran official with whom the elder leaders of all political parties have had friendly relations either as subordinates or as associates, he would be able to effect a speedy settlement of internal differences and put an end to the desultory internal warfare which has been rapidly ruining the country. Matters have not developed in a way to give the optimists any encouragement.

The South, newly federated and bolder than usual in the strength of a new organization, greeted the newly elected President with a declaration pointing out the illegality of his mode of election and refusing flatly to have anything to do with any official elected by the Parliament sitting in Peking. The President-elect failed, moreover, in his announcements of his policy which were published about ten days after his election, to make any definite advances to any of the Southern leaders. It must, therefore, be assumed, in spite of the long dissertations from Mr. Hsu which have appeared in the press, impressing upon the public his ardent desire for peace, his sorrow for the suffering people, his anxiety about China's relations with foreign nations after the war and the like, that he is committed to the present political leaders in Peking, who have graciously permitted him to assume office and that his career as chief executive will be devoted to executing the mandates of the Tuan Chi-jui political organization.

There are some who still hope that a compromise between North and South will be effected through the election of a Vice-President representative of Southern political interests. One interesting feature of the recent Presidential election was that it was found necessary to postpone the vice-presidential election because several people wanted the office very badly, because the northern factotums could not agree among themselves upon a man, and because the timid parliament was unwilling to take upon itself the responsibility of selecting a man until they had been clearly instructed in the desires of the powers that rule. Another incident of interest was the withdrawal of Mr. Liang Shih-yi, Speaker of the Senate, from his chair immediately before the ceremonies preceding the election commenced. This was at once interpreted as an attempt on this still influential man's part to disclaim responsibility for what was about to happen so that he might not be disqualified from the rôle of peacemaker between the Northern, the Southern and the Yangtze Valley parties with all of whom he has been seeking to remain on good terms. The fact that he eluded disqualification from this rôle of harmonizing agent is also interpreted to mean that he and his following in the old Chiaotung party are planning to take some active part in politics with a view to bringing about peace in one way or another.

The mechanics of the election ran smoothly enough. It was generally understood some weeks beforehand that the three leading candidates would be Ex-Premier Hsu, Premier Tuan Chi-jui and President Feng Kuo-chang. Some days beforehand, however, it became apparent that President Feng had almost given up hope and was devoting himself to the gaining of a following which would enable him to prevent a quorum. In this he failed. Premier Tuan very obviously supported the election of Ex-Premier Hsu at the end, so the voting resulted in 425 votes being cast for Mr. Hsu, five for Premier Tuan, 1 for General Ni Shih-

chung, 1 for Ex-Minister of Agriculture Chang Chien, 1 for General Wang Shih-chen, and 1 for Wang Yi-tang, while two votes were disqualified.

The President-elect is perhaps better known to the average Chinese than any other public man, because he has been gravitating around the top of things for many years. Starting life in Honan as a yamen secretary he eventually passed the necessary examination in Peking to qualify him as a member of the old "Forest of Pencils," the Hanlin Academy, a distinction of great value in China even in these days. He became associated with the late Yuan Shih-kai when the latter was building up a modern army, and was appointed Co-Director of the Army Training Department. This brought him into intimate touch with the principal military men who happen to be exercising power to-day. They were then all young men, and studied and grew up together until they were given prominent rank under Yuan Shih-kai. The President-elect was made Vice-President of the Board of Army, but was transferred from the military sphere to the administrative when the Manchus began to prepare to permit the establishment of a so-called constitutional government. Mr. Hsu was then made President of the Board of Civil Affairs, and was later transferred as Viceroy of Manchuria. With the downfall of Yuan Shih-kai following the death of the Emperor Kuang Hsü, he became Minister of Communications, and later on Guardian of the Emperor. The overthrow of the Manchus compelled his retirement and he went to live at Tsingtao till 1914, when Yuan Shih-kai persuaded him to become Secretary of State. The monarchical effort fostered by Yuan Shih-kai caused Mr. Hsu once more to seek retirement and he only came into public life again when Yuan abandoned his monarchical ambitions, though he retired once again upon the death of his old patron. His influence was, however, useful in an endeavor to effect adjustments and reconciliations between contending factions. His special qualifications as a bearer of olive branches is responsible, as much as anything else, for his election as President. He is the only high official who can "talk" to the military generals who have made out of a national army a dozen or so of heterogeneous personal forces allegedly owing allegiance to the Central Government but in reality obeying no commands but those which please them. Likewise he is the only Northern statesman who can command the least respect from Southern leaders. He is believed by them to be actuated by good and honest motives, even though his predilection is for the politics espoused by the North. Since agreeing to take up office he has announced that his primary work will be in the direction of settling the internal strife, and only time can tell how he proposes to carry that out.

The South and the Customs

History has seldom provided a better illustration of the variance between what we wish and what we do, than the recent incident in connection with the threat of the Southern Government at Canton to seize the Chinese Maritime Customs organization at that place. The idealism which has been preached for centuries from every pulpit in Europe has been proved impossible under present social conditions by the world war. None could practice that idealism and survive; not because the human heart is antagonistic to goodness but because of the practical difficulties caused by defective environment. This forms the basis of what is written below.

The Southern Government threatened to seize the Canton Customs and to apply its revenue for its own purposes. This has aroused justifiable resentment on the part of the Allies, but is there not something to be said in extenuation? It is inconceivable that men who are fighting against the German idea that might is right should have adopted so high-handed a procedure without reasonable cause. If they now appear to have denied their own principles the denial must surely be more apparent than real.

In the minds of any who know China there should not be even a shadow of a fear that the Southern leaders contemplate repudiation of treaties. The history of the first revolution forbids the suggestion. Nothing less than a very strong conviction of the supreme needs of the moment could have led the young party in Canton to act in a way which they knew beforehand their best

friends would regard as improper. They have risked the resentment of those whose good opinion they most value for the sake of the great cause of freedom for which we are all fighting.

They are unfortunately somewhat in the position of the smaller European nations under the domination of Germany. Like them they are fighting against tremendous odds. In men, money and prestige Peking has the advantage. By various means, legal or otherwise; by virtue of its position as the recognized seat of Government, Peking has facilities for obtaining the sinews of war in ways that are absolutely denied to Canton. By loans obtained by devious paths Peking has succeeded very well so far in keeping its military chest replenished, and for what? Directly to fatten military purses, and indirectly to establish a military autocracy. Even in the midst of their bitter strife the Southern leaders have been true to their democratic principles, and, unlike the North, have refrained from undue oppressive measures. To seize the Customs was a confession of inability in this naughty world to act always as we would wish; but when placed against the determination of the North to set up at all costs a military dictatorship, no surprise may be felt that even an experienced diplomat like Dr. Wu Ting-fang has been constrained by the logic of events to assent to a technical breach of international faith. The South has been fighting with clean hands for over a year—fighting for ideals which we all cherish, and there is much to be said for the extreme course it recently threatened to take. The Allies, who, contrary to their wishes, were compelled in this European war to adopt retaliatory measures not in accord with the rules of modern warfare, should sympathise with the awkward situation in which the South now finds itself. Let us ask ourselves what we should do were we in a similar condition. It should be clearly understood that nothing that has been said contains any lurking German notion that the end justifies the means. Good intentions are not furthered by bad actions. The South does not pretend to justify itself but it does plead that extreme necessity, which all friends of the Republic regret, leave the authorities no other alternative.

This is not an act of aggression, such as the invasion of Belgium, which the German Chancellor, Bethmann von Hollweg, while admitting the wrong justified it by saying that military necessity knows no law. Such is not the contention. Rather it is argued that the technical illegality of taking revenue in an unlawful manner by those in authority whose principles are the same as those of the Allies should in the circumstances be condoned.

Whether the threat is carried into execution or not, the Allies should not forget that it is mainly due to the young party in Canton that China is now numbered among Germany's enemies, and that the battle of freedom they are now fighting in this country is the same battle as is being fought in Europe. We trust that the Allies will not lay too much stress on a single incident in a civil war but will keep well before them the real issues at stake between the North and the South. The priest and the Levite may pass by on the other side, but surely in this case the Powers should act the part of the Good Samaritan to the extent of acknowledging that the poor man has at all events the right to defend himself against thieves.

A few days after the above was written we were glad to see a statement published by the Intelligence Bureau of the Southern Military Government denying that any threat had been made to seize the Customs, the Bureau adding that "it is inconceivable that any person would believe such pernicious rumors." While the denial removes the fear, which sympathisers with the Constitutionalists entertained, that the South was "running amok" the sentiments expressed above still stand, and for that reason we have not cancelled the article.

China's Railways and Lumber

The Managing Director of the Peking-Hankow Railway, Dr. C. C. Wang, has outclassed his colleagues by doing something practical towards the creation of forestry areas capable of supplying in the years to come the timber requisite for the railway over which he in this year of grace happens to preside.

Recently he appointed a commission consisting of Messrs. Ngan Han and W. Purdom, from the Ministry of Agriculture and Commerce, and Mr. Tang, of the Peking-Hankow Railway service, to inspect the lands immediately adjacent to the railway with the object of selecting areas for afforestation. These gentlemen carried out their task, selected certain areas, reported on them both as regards soil, climate, and character of trees best suited to the localities and purposes of the railway, and upon their report Dr. Wang has promptly acted.

Afforestation is such an important question in China that the average person can be pardoned for imagining that every Chinese in authority might be bursting with zeal to exert himself to the utmost to make good the devastation wrought through the centuries by the thoughtless hordes of fuel hunters who have scraped most of the mountains and the uncultivable areas clean. As a fact very few Chinese officials give a second thought to the water scarred hills, the silted rivers and the periodical floods that are to be laid solely at the door of fuel gatherers who have been operating for aeons. Or if there seem to be some Chinese who apparently are taking an interest in afforestation and flood prevention to-day it must be explained they have been driven to the task by the very recent floods which almost brought about the complete inundation of the treaty port of Tientsin. Before that threatened catastrophe stirred foreigners to action Chinese were indifferent to the fate of the hills, the rivers, the country, or the people: or rather the average Chinese was indifferent—and callously so.

There was one who appreciated the need of action, however, and that one was Mr. Chow Tze-chi. When he was Minister of Commerce, Agriculture and Industry he formed a Forestry Bureau at the Ministry, engaged the services of experts like Mr. Sherfessie and Mr. Purdom and set to work seriously to try and overtake the devastation annually being wrought by the elements. His ambition was to see country-wide afforestation undertaken, but hardly had he begun the building up of an organization than the political whirligig of China tossed him from office and his successor promptly set to work to undo all that had been so laboriously planned. Nor has anyone since made the slightest effort to resume where Mr. Chow had to leave off. The only steps taken to use the expert services of the organization created with so much trouble, steps that are really worth while that is, are those causing this comment. And while they constitute a great stride forward, they are still little in comparison with what ought to be done.

Apart from a national scheme to create new forests and preserve those still standing in distant places, such as Mr. Chow Tze-chi started to operate, there should be a special service inaugurated with the object of providing in the years to come the lumber needs of all of China's railways, existing and to come. A forestry bureau should be organized by the Ministry of Communications with experts to run it, their business being to select and plant areas and care for them as time goes on. In the matter of ties, or sleepers, alone the railways can absorb all that can be grown. With the small per capita mileage that exists to-day the demand for sleepers, to say nothing of other kinds of lumber, is a great one. What will it be when China acquires the railways she needs? The Shanghai-Hangchow-Nanking Railway can at present use up to 100,000 sleepers per year, and the Peking-Hankow line can take up to 410,000, in addition to piles, posts and general woodwork. It can be estimated from this what the other lines will absorb. And scarcely a decent sleeper can be profitably cut in China. Most of those used have to be imported, the majority from Japan, the price per sleeper being somewhere about \$2.50 at this period. The amount of money going out of China on this account alone is enormous, a state of affairs which is nothing short of criminal when the torn and barren hill and mountain sides are remembered. Immense tracts of land which are now lying idle because they cannot be cultivated could be bearing wealth in timber. Experts could soon put them under trees, and since the Government has the service of experts it should employ them in the straightforward necessary work that calls for performance. It is to be hoped that the effort of the Director of the Peking-Hankow Railway will serve as an inspiration and that the Ministry of Communications will lose no time in profiting by it. The Ministry has already been responsible for several innovations of an advantageous nature to the country.

It should keep up its record by guaranteeing that posterity will be able to see the railways using timber from their own lands, as well as participate in the joys of the sight and use of wide forests such as the present or the next generation are not likely to observe.

China's Shortage of Railway Cars

What is being done to improve the equipment situation on the Chinese Government railways? During the past winter there was such a demand for wagons that Sino-Foreign concerns were invoking the offices of the foreign legations for assistance in securing even a partial supply against their wants. The price of coal at all outlying points simply soared. Grain lay stacked up under mats at scores of stations. Yet so far as we can find out, not a single car has been added to the supply last year. On top of that, the railway men had the biggest crop to move that China has seen in years. True, this will cut down the movement into the famine districts of last year, but there is a demand for foodstuffs at every port. The rice riots in Japan are an indication of the demand in that near-by market. The Government has a military expedition to feed and supply on the Siberian border. There is a normal increase in traffic of from five to ten per cent. in spite of all political disturbances. And when the war ends—and it looks as if it might end within a period to be counted in months—there will be a settling up and a settling down which will mean a sudden leap in business in China. What is being done to prepare for this?

At the Traffic Conference last July, the Ministry of Communications secured from the several railways acquiescence to a scheme of ownership by the Ministry of a central group of cars to be leased out to the several lines in accordance with their needs, both for local and for through traffic. Of course, it will take some time to frame the regulations for the interchange, the inspection, the repair of such cars. But why wait until those regulations are complete before placing the order for the cars? It will take a year, perhaps more, to build those cars after the order is placed. That will leave abundant time for the drawing up of the needful rules. Apparently the Ministry has made no move whatever to secure the cars for its central group. The concession which it secured from the lines in this particular was a very important step toward the assertion of full control by China over her railways. Any hesitation in exercising the rights obtained to manage a central car supply, merely delays by so much this full control.

There has been considerable doubt whether the cars were to be had. Japan, herself so short of cars that she has had to increase rates, was not in a position to furnish them. The United States was at war. The American Government itself had ordered from manufacturers some 100,000 cars and 1,000 locomotives. What chance was there of getting any cars in America? While this question was being asked Argentine secured several hundred cars. The Philippines have secured preferred rights for an order of several hundred more together with locomotives, and South Manchuria Railway has actually taken delivery of 25 locomotives, and 500 goods wagons and has 500 more on the way. While China has feared to ask, these other interests have actually secured the equipment. Apparently, concerns which have a real need for equipment, and the nerve to ask for it can still purchase it in the United States.

Undoubtedly lack of money is giving the Ministry pause. But that need not be so formidable an obstacle as it seems. The war activities of the United States have widened the outlook of that nation's statesmen very considerably. Appreciating the situation, Argentine was permitted to purchase her equipment on the partial payment plan. A Canadian railway has done the same. Undoubtedly if a whole-hearted effort were made by China she could secure the same terms. In brief, these were something as follow: A small initial payment, say 20 or 30 per cent. is required, and a mortgage upon the equipment itself is taken as security for the remainder of the cost. This plan of financing new purchases of equipment in the States has been in use for a great many years. Locomotive and car builders are used to the method and would be easy to convince of its soundness when applied to

China. Additional payments are made from year to year, so that the equipment actually pays for itself. Judging from the Ministry's report issued for the year 1915, if 500 additional cars were to be put in service now, the additional earnings from such cars would pay for them in three or four years, leaving the remaining sixteen or twenty years of their life as a pure profit on the transaction. The initial payment for 500 cars, say, would probably not be over \$500,000. If the Ministry of Communications cannot find that amount of money for so good a project, it should look for a Receiver.

Some difficulty undoubtedly will be experienced in getting space for bringing such cars to China. But the South Manchuria Railway got it. And the tonnage problem will probably improve by the time these cars could be constructed. Certainly we shall not find the United States Shipping Board trying to force the space on to China, but they are not likely to discriminate against China. Why not try?

A Sign of China's National Health

The Ministry of Communications at Peking announces the formation of a Bureau to take charge of through traffic matters. To our way of thinking this is one of the most significant and important steps which any department of the Government has taken for a long time. We will pass over the benefits which are sure to arise from the development of through traffic. Nor will we comment upon the evident wisdom of the Ministry in appointing to the principal positions of responsibility men of proved ability and administrative experience. The good sense exhibited by the foreign staff connected with the lines affected in lending their consent to a movement so vital to China politically as well as commercially may also be dismissed with this brief passing tribute. The most important value which this action possesses is the example which it affords of the way in which progress will be made in China—is being made—despite the apparent continuous strife which exists.

The older Chinese blamed Providence and devils for floods and pestilence. The modern Chinese recognizes these visitations to be the direct results of misdeeds on the part of the people, such as indiscriminate cutting of timber, neglect of dykes and unsanitary practices. But the modern Chinese blames the Government officials for all the ills of his country with much the same abandon as his father blamed *feng-shui*. This practice is scarcely one step in advance of the old superstition. As an example of this besetting sin, a recent number of a scholarly publication contains an article by a leading younger Chinese who quotes Mencius to the effect that "If the monarch be benevolent, none will be otherwise"; and the rebuke Confucius gave Ki Kang-tse concerning *hunghutse*, saying, "Were it not that you made them so, no inducement whatever can make them rob." This is a vicious idea. It is the self-deceiving excuse of the lazy citizen for his failure to act the part of a man in his allotted place.

The work of the Chinese Government or of any other government is not done by the few men whose names appear as members of the Cabinet or in other high positions. At best such men can never be responsible for more than a few decisions on matters of policy and for the co-ordination of departments. The real work of government is done by the thousands of obscure clerks and bureau chiefs. If specifications for materials are drawn properly it is because individuals have taken pains to find out just what is wanted and have gone through the drudgery of learning the precise expression for these wants. If materials conform to specifications it is because the individual inspectors first took the pains to know their job, then actually inspect the material, and finally refuse temptations to overlook inferior stuff. If three men are paid to do the work of one man it is because three individuals give the government short weight on work, a fourth fails to supervise them, and a fifth fails to scrutinize the accounts. Safeguarding public funds is an individual responsibility at every step. If reports are reliable it is because the investigators are diligent and the tabulators are accurate. If reports are timely, it is because the individuals who make them are prompt. If China misses every opportunity to better her relative condition offered to her in this great war,

it is largely because the men in the lower grades of service who come into actual contact with the basic facts of production, trade, finance, communication, national defence have dawdled at their work, have no vision, and have no program to present to their superiors. We hold no brief for the Chinese Government official. But neither in China nor anywhere else do the great ideas of progress originate at the top. The impulse, the motive force, comes from below. Rarely does the "Great man" ever do more than help or hinder or shape a little the inevitable event.

Of all the wonderful things connected with this war, probably none seems more remarkable than the sudden transformation of America from an aggregation of a hundred million, dollar-chasing pacifists into a war unit able to put a million and a half of splendid fighting men into a field three thousand miles away within a period of a year and a half. Yet for the past century the American cabinet has had a composition as kaleidoscopic, almost, as the Chinese. "To the victors belong the spoils" was the motto. And there was a political battle—an election—every four years or less. Every change in administration meant a re-distribution of the "plums." Only a generation ago, a President was murdered because no "plum" fell into an expectant hat. But the new appointees always had to retain some of the experienced underlings to protect them from their own incompetence. The underlings were the only men who knew. Some of them had vision. Some of them made plans. And the new chief rarely could do little with such intelligent resolution other than to "sign here." Some of the underlings did not have vision. They had "pull." Only ten years ago the remnants of them were still putting away their work at four o'clock and holding their hands in idleness for half-an-hour in silent protest against an order four years old extending the working day to 4.30 p.m. But on a cold, cold day about then, the Civil Service idea became strong and bold. The men with "pulls" sank and the men with push rose. The Yankees are "Over There" to-day in forces large enough and strong enough to give civilization hope, not because Presidents and Cabinets have been wise and honest, but because bureau clerks by individual conscientious work gradually forced the building up of thorough, effective administrative organization.

This new Through Traffic Bureau is a section of the same stock. It is the conception and workmanship of men busy in the details of everyday work in the Chinese railway administration. Some of them have cherished an ideal for years. They have dared to hope that some day there will be a Chinese railway system in contrast to a number of Chinese railways. They have had to be patient. One step was taken when accounting classifications were made uniform. The Through Traffic Bureau is another step. May this good example stimulate emulation!

The Wireless Telephone Agreement

So far as we can learn the Japanese Government has not yet followed the suggestions of some of the Japanese newspapers that a protest be lodged against the contract concluded on August 24 between the Marconi Company and the Chinese Government for the supply of two hundred wireless telephone installations. These telephones have a range of forty miles and are to be used by the military. In connection with the contract a loan of £600,000 was made to the Peking Government, half of which was to be devoted to the purchase of the instruments and the other half to be disposed of as the Government desired. Certain Japanese publicists took umbrage at the contract on the grounds that it conflicted with the wireless agreement made between China and Japan some time ago. The actual scope of that agreement is unknown to the public, and it is explained that the Marconi contract was put through to draw the badger. If this is so there may be justification for what otherwise must be regarded as a questionable deal at this period. No one ought to lend uncontrolled money to the Peking Government as it has been constituted of late, and even if other nationals have been doing so there is no reason why the British, whose standing is high in China, should follow suit. A well-informed correspondent stated the case as follows, and there is every reason to believe that his interpretation

is the correct one: "The only obvious explanation of this advance by the Marconi Company is that it is a necessary test of the scope of the terms of the Japanese wireless contract which was made early last spring. It was feared that this loan, the terms of which are still unknown, was of such a character that it gave the Japanese contractors a virtual monopoly upon all wireless and other telegraph business. Until the existence of such a monopoly were proven, however, there was nothing to protest against and nothing to oppose. The only way to find out whether an effective monopoly had been established was to try to sell something to the Government on favorable terms and see what would happen. The only terms which are favorable to the present Government are those which entail a loan—hence the contract and the loan. This is the explanation which is current in commercial circles here and is regarded as the only possible apology for what would seem otherwise to be only an emulation of the agreements with the Chinese Government which have been so freely and heartily condemned of late."

The Opium Scandal

The disgraceful act of the Chinese Government in purchasing the opium stocks held by the opium merchants in China, and therewith instituting an opium monopoly, has, we are glad to see, produced a protest from America. Just as we are going to press a telegram comes from Reuter's correspondent at Peking announcing that America in a Note to China expresses regret that the Chinese Government has purchased the opium stocks and proposes to dispose of them in a manner which contravenes the spirit of the Hague Convention which was ratified by China and America. This action endangers all the beneficial results hitherto accomplished towards the wiping out of the opium business in China, and America expresses the earnest hope that the transaction mentioned above may not be carried to completion and that China will take the necessary steps to cancel the agreement entered into with the opium merchants in Shanghai.

That a protest has been made by America will be inspiring to those who are working to oppose the shameful and tragic step taken by the Peking Government. The agitation against the opium transaction is gradually growing throughout the country; Chinese organization is taking place in various centres, and were it not for the disturbed condition in the provinces it is certain that a widespread anti-opium campaign would by now have been afoot. Already certain Kiangsu residents have warned Feng Kuo-hsun, the Shanghai Opium Commissioner, of the fate of Tsai Nai-huang, the late Opium Commissioner of Shanghai, who was shot at Canton, for, it is believed, concluding the opium contract with the Shanghai opium combine, and the threat is made that similar measures may be taken against him. Even the Peking Parliament has not had the courage to support the measure so far, certain members strongly condemning it when a motion was brought forward to urge the Government to convert the recently purchased opium into morphine to sell abroad. After some discussion the house, amidst an uproar, refused to hear any further debate, one member shouting "send the bill back to the Government, it doesn't suit Parliament." This action is significant when it is remembered that the Peking Parliament is a creation of the Military party and is supposed to be dominated by them.

A suggestion was made recently by Reuter's Correspondent in Peking that the Anti-Opium Society should be revived to provide some central organ to take control of propaganda work, and this suggestion ought to be taken up both by foreigners and Chinese. The Anti-Opium Society did good work in the past, and active and sustained effort is needed more now than at any other time. The British Government met China to the utmost extent in stopping the export of opium from India, and it would seem that the Chinese Government merely waited for the embargo to be placed on Indian opium before entering into the opium business on its own account. What were regarded as pessimists in the past used to urge that the Chinese were not sincere in their agitation for the suppression of the Indian opium traffic, alleging that immediately Indian opium was stopped there would be a revival of opium consumption under the aegis of the Chinese; but they seem to have been prophets rather than pessimists—prophets whom time has justified.

Loans and More Loans

Mr. Nishihara of Japan is a strenuous worker in the financial vineyard. He has, to use his own words, put through more multifarious loan transactions in a month or two than any other financial representative could have done in a lifetime. When he said this he already had a bagful of agreements and the gasping populace of Peking imagined that he had not a fraction of space left for another. But they did not know Mr. Nishihara. No sooner was the news bruited abroad that the Terauchi Cabinet was on its last legs than rumors of more loans began to fly about the capital, and it was categorically announced that contracts of a far-reaching nature were to be signed in the last fortnight of September. Some of these were anticipated, particularly one for the building of railways in Shantung Province. On December 30, 1913, the Germans signed an agreement with the Chinese for the building of railways from Kaomi—near Tsingtao, on the railway line to Tsinanfu—to Hsuehowfu, on the Tientsin-Pukow Railway, in Kiangsu Province; and from a point north of the Yellow River near Tsinanfu, to a point on the Peking-Hankow Railway. These lines would give the port of Tsingtao a wider source of supplies, and since Japan is employing considerable energy in developing Tsingtao as a port it is quite natural that she should desire to see more railways built and particularly any which were embodied in agreements with Germany.

It is stated that negotiations have been proceeding in recent weeks for the Kaomi-Hsuehowfu line and for a line from the north of the river near Tsinanfu to Shuntehfu, on the Peking-Hankow Railway, in Chihli Province. A glance at the map will indicate the importance of these lines in the building up of Tsingtao. A condition attached to the agreement, it is said, stipulates that the Japanese shall have the right to establish administrative centres in Shantung. This is an important question, with far-reaching possibilities, and we can scarcely believe that Japan would make it a part of a railway agreement when its place is with other matters that should be determined after the conclusion of the European war. The Japanese Legation has denied the rumor, and perhaps on this ground.

Another railway agreement said to be under negotiation concerns Manchuria and Inner Mongolia. Five lines are reported to be involved, and speculation places one of them between Taonanfu and Jehol, or Jehol and Peking. If any new agreement is being sought by Japan in this territory it will almost certainly embrace a line from Taonanfu southwards. Under an agreement signed on October 5, 1913, the right was given by China to Japan to build a line from Shihpingkai to Chengchiatun and Taonan, as well as from the Changchun station of the Kirin-Changchun line to Taonan, in addition to a line from Kaiyuan to Hailungkiang. It is natural, too, that Japan, to make her system complete, will eventually build from Taonan northwards to Tsitsihar. In this event the southern section of the much discussed Chinchow-Aigun Railway—the right to build which was once given to Americans—will be built and controlled by Japan. In the agreement of October 5, 1913, it was specifically stipulated that if in future railways are to be built with foreign capital from Taonanfu to Jehol and from Hailungfu to Kirin negotiations will first be entered into with Japanese capitalists. This makes it practically certain that these lines will be included in any negotiations which may be proceeding at this time.

A condition which is said to be attached to the agreement in connection with the Manchurian and Inner Mongolian lines is that the mining rights in the region traversed shall go to Japanese capitalists for development. Already the sum of Yen 6,000,000, it is alleged, has been advanced in connection with this project.

Apart from the railway loans reported to be under consideration there is a military loan for Yen 4,000,000 and an administrative loan for Yen 2,000,000. The former calls for an extension of the military agreement recently come to between Japan and China, the actual terms of which have so far been kept secret—withstanding that this is supposed to be a period when secret diplomacy is taboo—and stipulated that the Chinese army shall be drilled by Japanese officers. This seems to be an echo of the Twenty-one Demands, and naturally enough the report causes considerable agitation among the Chinese who entertain suspicions of Japan's motives. If there are any tags attached to the political

loan they have not yet been reported, but it is stated that the security is the Wine and Tobacco Tax. As the Japanese know that this tax is already hypothecated in other directions and that any attempt on their part to use it as security would immediately evoke a protest from both the French and the American Legations it is unbelievable that they would risk trouble by either asking for it as security or accepting it if offered by the Chinese.

The circulation of the report that these loans were under negotiation caused a stir in view of the fact that both the Terauchi and the Tuan Chi-jui Cabinets were then seriously wobbling, and the negotiations had every appearance of a final frantic effort on the part of the Peking borrowers to make the last bit of hay before the sun set. Newspapers severely criticised the Government and minced no words in expressing their feelings. The "Peking Leader," published in English, but owned and edited by Chinese, raised the interesting point that if the railways in Shantung are being sought under the Treaty signed as a result of the Twenty-one Demands then the Japanese claim is untenable. Article 1 of that Treaty is as follows: "The Chinese Government agrees to give full assent to all matters upon which the Japanese Government may hereafter agree with the German Government relating to the disposition of all rights, interests, and concessions which Germany, by virtue of treaties or otherwise, possesses in relation to the Province of Shantung." The "Leader" claims that this article cannot stand because:

Ever since August 14, 1917, this country has been at war with the Central Powers and, therefore, all agreements, treaties or conventions previously entered into between China and these states become *ipso facto* null and void. Hence, the subjects of Germany and Austria are no longer entitled to the enjoyment of their former treaty rights of extraterritoriality but are amenable to Chinese jurisdiction, like any non-treaty subjects. If so, neither Japan nor any other foreign state can succeed to the former German rights or concessions in Shantung or elsewhere in China, all such rights and privileges having been abrogated or cancelled by the act of declaration of war.

The demand that China shall agree to the establishment of civil offices in Shantung, Manchuria and Mongolia in return for a loan to construct the two railways in Shantung is an eloquent testimony that, feeble as is the popular opposition in Shantung to the illegal establishment of such alien *imperium in imperio*, it yet has had some effect. It will be remembered that as early as last autumn the controversy in this connection between the Chinese and Japanese Governments had started, but nothing definite was reached until last March when it was hoped that with the return from Tokyo of Baron Hayashi, the Japanese Minister, a satisfactory settlement might be arrived at. Since then nothing has been heard of the matter, but it seems that the determined opposition of the Shantung people has been effectual in preventing the establishment of additional offices. Of course, if such establishment is consented to by the Peking Government, further popular opposition would be disarmed.

Here it is interesting to note that the demand for such establishment is made while Baron Hayashi is again on leave of absence in Tokyo. For, as we pointed out on March 17, according to the "Asahi" correspondent, the Japanese Minister himself had never favored the establishment of these civil administration offices. "It is true," said the correspondent, "Baron Hayashi had always advocated the abolition of military administration, but the civil administration established by the Japanese Government in its stead was very different from the one he had in view. In the days of the German administration that country had not an inch of territory along the railway except the sites for stations, and therefore the Japanese Legation concluded that the introduction of Japan's civil administration in the towns and villages along the route of the Shantung Railway was a flagrant violation of international law." Now Baron Hayashi has come and gone and yet the matter is still unsettled. Does it mean that his absence in Japan at this moment is being utilized by the advocates of civil administration with the sure knowledge that the demand will be complied with? If so, it may well be that the Japanese Legation in Peking is never consulted or informed of the present negotiations.

The "North-China Daily News," basing its comments on information supplied by its Peking correspondent, commented on the reported negotiations as follows:

If the report of the big Japanese loan to China, involving a variety of new railways and special concessions is true, nothing more regrettable could well have occurred. Even the rumor alone (and though denied in the usual way by the Japanese Legation it is fairly categorical) cannot but do harm to the negotiations between North and South. Mr. Nishihara has, we believe, been more or less disclaimed, publicly, by the Japanese Government. We wish that the latter could be persuaded not merely to disclaim but to repress, as it could easily do, the mischievous activities of this gentleman and others like him. Until the new President has the affairs of government well in hand, it is merely perpetuating trouble to lend money to any party in China. If we thought that the reported railway loan would really result in the opening up of China, we should have no criticism to make. But who does suppose such a thing for a moment? The circumstances of the case are very obvious. The old gang still for a few days in power in Peking sees that power threatened by the election of President Hsu and is in haste to line its pockets and satisfy the claims of its hangers-on before its sun sets. It therefore concludes this monster and monstrous

loan. Mr. Nishihara or somebody else gets the mining concessions, and the gang get the money. As for the railways, China may whistle for them; and the South, though not free from rumors of having also pledged national resources, has a fresh cause of grievance against the North to keep this unhappy country in a broil. The momentary advantages which a limited group of Japanese profiteers may derive are nothing compared with the ultimate well-being of China, which is that of the Far East generally, Japan included; and we sincerely hope the Japanese Government will put down its foot firmly on this deplorable loan.

A Monopolistic Chinese Trading Co.

In the petition presented to the President of China by the acting Minister of Finance, Mr. Tsao Ju-lin, urging the promulgation of Mandates authorizing the introduction of gold notes and the establishment of a Currency Bureau it was stated that a trading company would be established to do international business and so help the circulation of the gold notes. The mandates were promulgated on August 10 (published in the September issue of the REVIEW), and on August 21 the articles of incorporation of the "Chung Hua Mao I Kung Ssu," as the Company is called, were gazetted. A glance will serve to indicate the possibilities for trouble that are embodied in these articles. As is known China entered into treaties many years ago which specifically prohibit the establishment of any monopoly of the kind which has been accorded this Company, and on that ground alone the trading Powers interested are sure to take steps to curtail the activities of the new concern. While no protest has as yet been lodged one can be expected immediately operations are begun which are calculated to infringe treaty rights. And no doubt one of the most vigorous opponents will be the Government of Japan which has always kept a wary eye on the possible monopolization of any commercial field by any other nationals.

It is stated that the Company will be capitalized by Japanese financial interests to the extent of \$5,000,000, the shares having a face value of \$1,000, and of the stock forty per cent. will be allotted to the Chinese promoters. The Company is chartered by the Government to do a general import and export business, and it has been accorded distinct privileges to enable it to compete with foreign traders—foreign traders who, by the way, have built up great wealth for China in spite of the strenuous opposition of Chinese mandarins employing its artifices in every direction. The regulations speak for themselves, and in all likelihood will awaken lively echoes which will be audible in all directions through the "open door." They are as follow:

1. This company is organized as a Chinese limited liability trading company. It is to have shareholders who will be responsible and hence the limited liability.
2. This company will fix its capital at \$5,000,000 divided into 5,000 shares, each share \$1,000. The first call on capital will be for one-fourth, or \$250 on each share. All stockholders will be Chinese.
3. This company will begin operations as soon as this one-fourth of the capital has been paid in.
4. This company will deal in all sorts of raw and manufactured articles both for export and import, and will act as agent for the Government, for companies, business firms or individuals in handling both exports and imports, limiting itself to accepting only such agencies as are approved by the committee of shareholders.
5. This company will ask the Government to confer upon it special privileges so as to encourage it in its competition with foreign traders.
 - (a) All commodities which can be imported or exported by special permit from the Government only, shall be handled by the company by special permit.
 - (b) When the Government or any organization under the control of the Government needs articles this company shall be appointed the agent by special grant to purchase the goods required.
 - (c) In exporting raw materials or manufactured articles and in importing raw materials, machinery or other special lines of goods when the special permit of the Government has been obtained, the Ministry of Communications shall give the same terms for freight as in transporting Government property and shall fix a favorable exchange to encourage the company.
6. When the Government wishes to stimulate trade in any native products, it shall notify this company of the varieties of goods and shall order the company to take measures to increase the import or export as a part of its obligations.
7. The company shall establish its head office at Peking, with branch offices at important points both within and without the country, and shall also appoint companies, firms or individuals to act as agents.
8. From holders of 50 or more shares five men will be elected as directors. From holders of 30 or more shares two men will be elected inspectors. The term of office for directors will be three years, and for inspectors one year, with privilege of re-election.
9. The company will appoint one general manager to be chosen by the directors and to serve five years, also one sub-manager to be chosen by the manager with the approval of the directors.

10. The company's business manager and the accountant of the head office shall both be appointed by the general manager, but the general manager may also act as manager of the head office.
11. The branch offices of the company shall have managers appointed by the general manager. The agents shall also be appointed by the general manager.
12. The company shall hold an annual meeting of shareholders, to elect directors and inspectors and to receive the report of the general manager on the accounts and on the condition of business.
13. After the organization of the general meeting those responsible for it shall turn over all business to the directors of the company and to the general manager and shall apply to the Ministry of Agriculture and Commerce for registration.
14. These Regulations shall be in force from date of publication.

Ningsiang Mining Company

A new coal mining company with a capital of \$4,000,000 is now being organized under the auspices of General Chang Chin-yao, the Tuchun of Hunan. This company will undertake the development of the coal fields of Ningsiang and Tsingchi of Hunan. A portion of the capital has been paid in and will be devoted to prospecting and the purchase of land. A petition of the company applying for registration and permission to prospect and develop the coal fields reached Peking last month.

It has been known for some time that the districts of Ningsiang and Tsingchi are very rich in coal deposits, and the natives of those places use antiquated methods to extract coal from the earth. Especially rich is the tract at Shang-ssu-lin, or Double Lion Ridge, covering an area of 30 square li. These coal fields produce excellent anthracite coal which is said to be unsurpassed in the Yangtse Valley. In promoting the new company General Chang Chin-yao gave three reasons, namely, (1) to avoid complications and disputes among the gentry in connection with the question of granting mining concessions to foreigners; (2) the employment of miners will give a livelihood to thousands of poverty-stricken people who suffered so acutely from the fighting in Hunan; (3) the mining tax will furnish a substantial income to the State coffers.

The Ningsiang Mining Company is a joint official and mercantile concern, so it is not necessary to go through certain formalities before starting work such as the submission of maps, plans, the investigation by Peking deputies, etc. General Chang Chin-yao pointed out that the work is urgent and must be carried out quickly. On receipt of the company's petition, the Ministry of Agriculture forthwith wired to General Chang saying that the company may go ahead at once.

The capital of the company amounting to \$4,000,000 is allotted as follows:—Forty per cent. is subscribed by the Yu-Siang Bank (Hunan Provincial Bank) which amounts to \$1,600,000. The Yu-Siang Bank should pay one-twentieth or \$80,000 at once as the first instalment of its allotted share. The balance of the capital amounting to \$2,400,000 is to be borne by the merchants of Changsha and other cities.

The promoters elected Mr. Chu Tsu-yin, Councillor of the Tuchun's Yamên, as Representative of the Company, and several deputies have been appointed to purchase the land which is necessary to the mining enterprise. The company has invoked the assistance of the Financial Bureau in the purchase of land. Illicit mining is to be rigidly prohibited and private-owned estates in the mining district are to be bought over.

Proposed Branch to Pukow Railway

Last year the merchants of Chinkiang and Yangchow petitioned the Ministry of Communications to extend the Pukow-Sinyang Railway to Kwachow, which is near Yangchow and opposite Chinkiang. It is proposed that the extension should be effected by building a line from Wuyi, on the Tientsin-Pukow Railway, to Kwachow, a distance of some 60 odd miles. It will be remembered that during the last years of the Tsing Dynasty, the Chinkiang merchants fought against the Nanking merchants and wanted the southern terminus of the Tientsin-Pukow Railway to be placed at Kwachow instead of at Pukow and to call it the Tientsin-Chinkiang Railway, but in the end the Nanking merchants won and the southern terminus was placed at Pukow. Their failure is still fresh in the memory of the Chinkiang merchants so they are pushing their new proposal to secure rail connection with unusual energy, and at last they have got the Ministry of Communications to sanction their proposal. Owing to the impossibility of securing necessary funds for the work no progress is being made with the Pukow-Sinyang Railway, and

seeing that the Government is unable to do anything at the present moment with their project the Chambers of Commerce of Yangchow and Chinkiang have decided to raise the necessary funds themselves and start the building of the connecting line at once. The two Chambers of Commerce are now planning the issue of debenture bonds to secure the capital. Kwachow, Yangchow and Chinkiang are important trading centres through which the abundant products of the Eastern Kiangpei must pass, and it is believed that as soon as rail connection is completed which will make these three cities accessible to the Tientsin-Pukow line, and the Pukow-Sinyang line, the trade development of these localities will be materially quickened.

Railway to Chimney Mountain

The Peking-Suiyuan Railway Administration is contemplating the construction of a branch line from Hsuanhuafu to Yentungshan, or Chimney Mountain, which is reported to be rich in coal and iron ores. In a memorandum to the Ministry of Communications, the Administration states that the Government sometime ago proposed to develop the iron and coal mines of Yentungshan, but to ensure success, transportation facilities should be the foremost consideration. A branch line connecting Yentungshan with the Peking-Suiyuan Railway can be easily built and this branch line would also be of use to other mines in the region. The Ministry of Communications has approved the project and surveying parties have been sent out to survey the route. The Peking-Suiyuan Administration has also sent deputies to arrange for the purchase of land for the branch line. The land will be bought according to the land-purchase regulations of the Peking-Suiyuan Railway. The construction work on this branch line will begin as soon as the land is bought. The first railway station will be situated at Houchiamiao, of Hsuanhua.

On September 25 the wireless station at Lyons, France, made connection with the Station at Koukaza, Shanghai, a distance of 11,000 kilometres, and as a result the Shanghai newspapers were able to publish additional war telegrams. The Koukaza station is the only one in China capable of speaking to Lyons or receiving therefrom. Lyons station sends a signal of 15,000 metre wave length, and it is expected that regular messages will shortly be received at Shanghai. They will be despatched from Lyons at 22 o'clock.

Just as we go to press reports come from Aigun that Japanese troops maltreated Russian and Chinese Customs inspectors who attempted to search a ship, and later when Mr. Mansfield, the Deputy Commissioner, visited the ship to investigate the matter, he also was assaulted. The Customs Commissioner protested and informed the Japanese Consul that it would be impossible to pass Japanese goods through the Customs unless the staff is properly protected against interference. This is the kind of thing which brings Japanese into disrepute in China, and perpetuates bitter feelings.

Some time ago the Diplomatic Corp at Peking sent a vote to the Wai Chiao Pu requesting that Wanh sien of Szechuan be opened as a Treaty Port. The Wai-Chiao Pu replied to the Note refusing to open the place on the ground that a stipulation is made in Art. 8 of the Sino-British Protocol of the 28th year of Kuang Hsü to the effect that no demand should be made for the opening up of Wanh sien before the carrying out of the scheme to abolish likin and raise the customs tariff. Another reason put forward is that Wanh sien is doing very well since the establishment of a branch customs office there and that there is no necessity to open it as treaty port.

The Fifth Department of the Board of General Staff, generally known as the Mapping Bureau, is the biggest mapping office in China. Every month this Bureau supplies large quantities of maps of the provinces of China to the government offices and the armies. This Bureau sends out a large number of surveyors who are incessantly at work in surveying the provinces, and a staff of skilled draughtsmen are engaged in drawing the maps, which are printed under expert supervision. The Chief of the Mapping Bureau is planning to instal additional plant for the making of electro-plates for printing the maps and an appropriation of \$50,000 has been obtained from the Ministry of Finance for the purpose.

The Wing On Department Store

A Prosperous Enterprise Newly Established in Shanghai



THE WING ON STORE AND HOTEL

The Wing On Company, a department store of Chinese ownership, in September opened its doors to business in its magnificent building occupying a city block on Nanking Road, Shanghai. When the first earth for the foundations was turned in January, 1916, the project seemed almost too ambitious, but now it transpires that the hotel operated in conjunction with the retail establishment, at least, is not of sufficient size for the patronage that is offered and an addition was started recently.

The block is constructed chiefly of reinforced concrete, and cost about \$750,000. It covers an area of 36,800 square feet, and is 126 feet in height. There are six stories surmounted by a roof garden. The hotel has more than 700 rooms, which are equipped in Western fashion and handsomely decorated.

The land on which the building stands was leased by Mr. S. A. Haroon for 35 years at an annual rental of \$40,000.

Nothing is lacking to make the building compare favorably with other modern foreign structures in Shanghai. Ventilation, fire escapes, lighting and all other facilities are arranged after the most approved methods.

The department store known as Wing On Company has the greater portion of the space for its uses. Everything in the way of foreign goods desired by Chinese is kept in stock, and their stocks of such articles as provisions, hardware, drygoods and other sundries are drawn upon by the foreign community as well.

The hotel operated in conjunction with the store, known as "The Great Eastern," is much like a foreign hotel with some modification to meet the tastes of Chinese guests. The ground floor contains a spacious lobby, while the next four floors are occupied by bedrooms and suites, to which servants' quarters are attached. The dining room is on the fifth floor, and there is a tea garden on the roof.

Messrs. Palmer and Turner of Shanghai and Hongkong are the architects.

The contractors are Lam Woo & Company.

The managing directors of the Wing On firm are G. K. Bew and James Gock Lock. The Shanghai manager is Mr. F. T. Young. Mr. Lock is the founder of the original Wing On depart-

ment store at Hongkong ten years ago, from which the present business expanded. Mr. Young is a pioneer in the Hongkong establishment. All the heads of the business are from Australia, to which country they emigrated from China in their youth.

Mr. Bew stayed in Australia continuously for 35 years, and visited China for the first time only this year. His first connection in Australia was with a Chinese firm, and with his savings he founded the Wing San Company there. Mr. Bew is also a heavy shareholder in the Sincere Company, another large Chinese department store and hotel, housed in a great building opposite the Shanghai house of Wing On.

Architects' Notes

The following notes on the new building were furnished by Messrs. Palmer and Turner:

The first block of the Wing On buildings recently completed consists of an extensive department store and a hotel in European style, occupying only a part of the island site, which is 65,000 square feet in area. The principal frontage is on Nanking Road, 215 feet in length, while the frontage on Chekiang Road is 290 feet. Unfortunately the original design could not be carried out. The original design provided for the tower on the corner, but as the lessees of the tea house on the corner of Nanking Road were unwilling to surrender their lease, which has a few more years to run, a change in the design was necessitated and the tower was placed in the centre of the Nanking Road frontage.

The building is 6 stories in height. The roof garden is 97 feet above the pavement, while the tower rises 68 feet above this, making a total of 165 feet from the pavement to the bottom of the flag pole. Visitors have access to the second stage of the tower, a height of 126 feet from the ground. The department store occupies the ground floor and the next three floors. The fourth floor is occupied by the general offices of the Company, packing rooms, and a dining room for the large staff. On the fifth floor are a restaurant, tea rooms, entertainment halls, a garden lounge and the winter garden. Entrance to the roof garden may be through the store, or there is a separate staircase and a lift opening on Kinwoka Road.



THE TEA GARDEN ON THE ROOF



AN INTERIOR VIEW

The staircase, hall and lifts in the store are unusually roomy, occupying a space of 43 feet in width with a depth of 23 feet. Lavatories with hot and cold water and flush water closets are provided on the various floors, in tiled rooms. Features new to Shanghai are the arcaded main entrance and copper shop fronts and doors. Emergency exits and staircases were carefully planned, and unsightly external fire escapes were avoided by designing external balconies giving access to enclosed concrete staircases in several parts of the building.

Wood windows were used, as delivery of steel casements could not be relied upon. With that exception the building is as fire-proof as it was possible to make it. It is of reinforced concrete skeleton frame construction with brick panel walls fifteen inches thick. The upper floors are of reinforced concrete finished on top with coke breeze to which is nailed the hardwood boards. The ground floor is of white terrazzo on surface concrete. The tower is of reinforced concrete throughout.

The main foundation consists of one large ribbed raft 164 by 174 feet at a depth of 4 feet 6 inches below ground level. No piles were used in the foundation, and settlement of the building has been uniform to date.

In the reinforced concrete work three special features may be mentioned. The flag pole 35 feet in length surmounting the tower is of reinforced concrete, the main staircases of hanging slabs without columns is an interesting piece of construction, and the beams over the large entertainment hall of forty-foot span are more than usually employed on this soil.

The hotel and amusement rooms at the top of the building are completely separated from the store by fire walls and concrete floors, and the openings in the fire walls are protected by automatic armored doors. Externally the building is finished with an artificial granite surface generally known as Zinzoseki. A feature of the external design is the provision of vertical panels and pilasters to receive the Chinese characters representing the name of the Company and lists of the ware they sell. By this provision the usual haphazard plastering of characters all over the front and consequent disfigurement has been avoided.

A complete hydrant system is installed, provided with a tank of 6,000 gallons capacity on the roof which is filled by an electrically driven pump situated on the ground floor.

A supplementary electric light plant has been installed to supply current for all the outside lights, as the Municipal Council is not in a position to supply the current needed. The wiring for electric light was no small item in the cost, the number of lights being very great. The glass-topped counters in addition to all show cases, are illuminated. Four lifts are provided, all of which run to the roof-garden level. A hot water heating system is provided for winter.

The ground floor of the hotel portion of the block is an open columned lounge hall 160 feet by 50 feet, paved with white

terrazzo. The room is heated by hot water radiators, floor grilles and a fireplace. Billiard tables occupy one end, while other space is occupied by the buffet and the office.

The main staircases and lift are centrally located and are approached from the private drive and promenade which divides the hotel and the store from Chekiang to Kinwoka roads. The general tone of the walls and columns is grey with cream relief.

The four floors above are arranged in suites, bedrooms, bathrooms, toilets and service rooms. On each of the floors there is a central reception room or lounge. All rooms, including bathrooms, and the corridors, are heated by hot water radiators. Wide balconies run from end to end of the building on every floor.

The fifth floor is used for a restaurant, 160 by 50 feet with low partitions in white with upper panels in patterned wired silk, and also contains the kitchen and other service rooms. From the service rooms lifts run to every floor.

There is an open tiled court and tea garden on the roof.

New Building for Shanghai Tramways

The Shanghai Tramways Company now occupies its new office building at No. 7 Soochow Road, an up-to-date concrete structure of five stories. On the ground floor, offices are provided for cashiers, season tickets, enquiries, found property, etc., with entrance in the centre of the north front. On this floor are also the offices for the traffic manager and inspectors, waiting room, store rooms, etc. On the first floor are offices for the line engineers' department and the statistical department, as well as reading and recreation rooms for the foreign staff. On the second floor are the general manager's office and board room, the deputy general manager's office, the general office. Records' office, with rooms for the chief clerk and the typist, and also a stationery store. The third and fourth floors will be available for letting as separate suites of offices, but as the Company's business develops these will be taken over gradually for its own purposes.



SHANGHAI TRAMWAYS OFFICE BUILDING

The building, which has a flat roof with structures for the lift machines, and accommodation for sun-printing, will be warmed by the low-pressure hot-water system, while the Company's offices are fitted with a private inter-phone system in addition to Exchange telephones. Separate lavatories for foreigners and Chinese and strong-rooms are provided on each floor.

On part of the open space to the south of the main building, is placed the emergency station, where will be stored the motor wagons used for inspection and repair of the overhead equipment.



D. MCCOLL,

General Manager, Shanghai Tramways

Quarters for the native staff of the overhead department are provided in a mezzanine floor of the main building, while the passages on the east and west sides of the main building provide access between the emergency station and Soochow Road.

The architects were Mr. J. E. Denham, and Mr. R. E. Stewardson, A.R.I.B.A.

The Company's Record

Though the tramways were opened only ten years ago, the Company to-day is a very big concern, controlling some twenty-five miles of track and

employing fully 1,250 people. The Company was registered in London in 1905, with Sir Alfred Dent, K.C.M.G., as Chairman, and the initial capital was £320,000, in ordinary shares. The present capital expenditure exceeds £450,000.

The work of construction was carried out by Messrs. Bruce, Peebles & Co., Ltd., Edinburgh, and the lines were opened for

traffic on March 5, 1908. In June of the same year Mr. Donald McColl came from the official staff of the London Underground Railways to take up the position of general manager. Mr. McColl had previously had varied tramway experience under the Glasgow Corporation and the Lisbon Electric Tramway Company, Ltd., following a commercial training with a large engineering firm in Glasgow. The deputy general manager of the Company is Mr. J. G. Smeaton, who also received his tramway training in Glasgow.

Of the 25.81 miles of track owned by the Company, 9.38 miles is double and 7.04 miles single line. The service was opened with 65 single deck cars of the single truck, but, as all Shanghai knows, the rolling stock has been very considerably increased since then, the present number of cars being 167, viz., 90 motor cars, 70 trailer cars and 7 railless cars.

An indication of the traffic development of the system may be gathered from the following figures:—During the year 1909 the number of passengers carried was 11,772,715 while

during the year 1917 the number had increased to 73,461,492. For the year 1909 the effective receipts amounted to \$441,541 (Mexican) as compared with \$1,258,857 (Mexican) for the year 1917.

The local board of the Company consists of Messrs. E. Wheeley (Chairman), L. J. Cubitt, G. M. Wheelock and R. M. Dalglish.



J. G. SMEATON,

Deputy General Manager, Shanghai Tramways

Economic Conditions in Manchuria and Chosen

The Governor of the Bank of Chosen, Mr. S. Minobe, at the general meeting of shareholders held at Tokyo on August 20 last, threw some interesting light upon the economic progress of Manchuria and Chosen as revealed by the operations of the Bank over which he presides. His address was as follows:

Chosen (Korea):—The economic world of the peninsula had another prosperous half-year in the period under review. The export of agricultural products, transactions in imported articles, and the conditions of industry in general maintained on the whole the prosperity of foregoing years. Retracing the principal features of the period, we find, concerning agricultural products, that the price of rice, the main staple of the country, was unprecedentedly high throughout the period, though of necessity was at times subject to fluctuations by reason of a variety of causes, such as the enforcement in Japan of decrees pertaining to price regulation and foreign rice control. In spite of this high price however, the market was swamped with Japanese orders and in addition a large quantity was exported to Manchuria and Shantung Province and neighbourhood, so that the total export amounted during the half-year to Yen 22,300,000, showing a substantial increase of 66 per cent. over that of the corresponding half of the preceding year. The market for cotton, the cultivation of which staple has long been encouraged by the Government, was unusually well supplied owing to the increase in production resulting from the extension of the area for its cultivation as well as from the abundant crop of the preceding year. Its price being higher, too, by 30 to 40 per cent., in comparison with that of the preceding year, the transactions in it were very brisk, so much so that the amount exported reached Yen 5,500,000 during the period, that is, three times as much as that for the corresponding period of the preceding year. The export of beans, tobacco, ginseng, cocoons, live-stock and other agricultural products also increased by from 10 to 200 per cent.

With regard to imports, owing to the increased well-being of the peasantry, their sales, especially those of the necessities of life, such as sheetings, shirtings, sugar, etc., were satisfactory, as is evidenced by the fact that the total amount of imports showed an increase of no less than 60 per cent. over that of the corresponding period of the preceding year. These circumstances, in combination with the increase in other commodities

exported and imported, expanded enormously the volume of the Korean trade, so that exports (bullion excluded) reached Yen 57,826,000, showing an increase of Yen 21,678,000, and imports Yen 67,734,000, showing an increase of Yen 22,404,000, over the figures of the corresponding half of the preceding year, making the total amount of trade larger by Yen 44,083,000 or 54 per cent. than that of a year ago a proof of the unusual activity shown in commerce, both domestic and foreign.

There were no new enterprises undertaken during the period worthy of special notice, but an amount of no less than Yen 3,320,000 was capitalized either for new establishments or for the extension of existing ones. The construction and improvement of railroads and public works of various kinds were started in many places.

In connection with coast navigation the opening by the Chosen Mail Steamship Company of a new line across the Sea of Japan is worthy of note in that Manchurian bean cakes were for the first time exported to Japan through the port of Wonsan, Korea. In agriculture, favorable prospects were held out, as the normal rain-falls enabled the satisfactory planting of rice, and besides an abundant wheat crop was anticipated. The economic situation of the country was thus exceedingly satisfactory in every phase, though complaints against the congestion of freight owing to the inadequate shipping and railway accommodation continued to be heard. Also, the American ban on the import of graphite and other things, the general restrictions on imports at Vladivostok, etc., hindered trade to some extent, but not to any such degree as to affect materially the general situation above mentioned.

Turning to the banking situation Mr. Minobe pointed out that the total bank deposits in Chosen reached Yen 69,900,000 and advances Yen 78,900,000 at the end of May, showing an expansion over the figures at the end of June of the preceding year of 39 per cent. in deposits and well-nigh 50 per cent. in advances. The amount of clearings at the four clearing houses in Chosen totalled Yen 168,300,000, that is, twice the amount cleared during the corresponding period of the preceding year—another evidence of the business prosperity enjoyed during the period.

Manchuria.—The financial situation of Manchuria was constantly affected generally or locally by events not only economic but also of military and diplomatic importance, but, as far as the general features were

concerned, the prosperity enjoyed by the country since the outbreak of war was maintained, showing satisfactory development in every direction. To follow the progress of events, in January there was talk about despatching troops into Siberia by Japan, decrees were issued in Russia nationalizing her banks and cancelling her foreign loans, and these were closely followed by the order prohibiting trade at Vladivostok. In February, there were the American trade restrictions, separate peace by Russia with the enemy, and, locally, the issue of the four per cent. *tsaipiao* and *hoitoupiao* by the Mukden Industrial Bank and Government Bank for the Three Eastern Provinces, both in Mukden. This last is worthy of note in that those debentures and notes were issued for the sole purpose of avoiding the conversion of their own bank notes into specie, the former being an interest bearing bank note and the latter being of the kind convertible only when it is tendered as remittance abroad. It was also during this month that the Mukden troops started on their southward expedition. In March, a ban on the export of rice and wheat was ordered in Kwantung province; then it was announced by the railway authorities that no further applications for Korea-Manchuria through transportation would be received, evidently to avoid further congestion. During the months of April and May publication was made of the China-Japanese military agreement, the Russian rouble and Chinese silver note fell heavily; some Chinese banks at Mukden suspended specie payment, and communication was much interrupted on account of the long rainy season. In June, the beans heaped up on the quays at Dairen took fire so frequently that the question of cancellation of insurance contracts came on the tapis; and this and many other events, among which was the compulsory suspension of business of the Bank of Territorial Development of China caused much apprehension in the popular mind. Moreover, the situation in Vladivostok and other parts of Siberia going from bad to worse spread uneasiness all over North Manchuria. To make matters worse, China closed her frontier customs as a national defence measure; and the much complained of congestion of freight goods still remained the same as ever, all exercising adverse influence on the market both for staples and imported articles, and, in consequence, tending to hinder trade and clog the money market. Its effect on the general situation, however, was comparatively slight. On the contrary, while the export of beans and bean cakes to Japan was exceedingly active, American orders for bean oil reached such an enormous amount that the whole production of the country appeared hardly sufficient to meet all of them. This export of bean oil to America was carried on briskly throughout the period despite the difficulty attending transportation. With regard to imports, the high quotation of cereals added much to the weal of the agricultural inhabitants, and this, aided by the high price of silver, made the sales of cotton yarns and fabrics and other imports exceedingly active.

The new enterprises in Manchuria and Mongolia continued prosperous and especially did the progress made in the construction of the iron works at Anshanchan and the rapid development of Fushun and other places add to the prosperity of the localities concerned. Under such circumstances, the movement of funds was kept busy in every direction, and firm money prevailed to the end of the period.

General Conditions of the Business of the Bank

Establishment of New Branches.—It was our pleasure to state in the previous report that the business of the Main Treasury at Dairen handled by the Yokohama Specie Bank was transferred to this Bank on the 31st of December last year, and, in consequence, it was decided that their branches at Port Arthur, Liaoyang, Tiehling, and Antung, acting as sub-treasuries or detached offices to the Main Treasury should also be made over to this Bank. In January of this year, the above decision was put into effect, and, as the result, the Bank has now its own branches at Port Arthur, Liaoyang and Tiehling. In March, the Bank established another branch at Chengchiatun, the terminus of the Szepingchieh-Chengchiatun line open to traffic in November last, and a town of great importance for our Mongolian trade. Finally, in April, a branch was established in Shanghai, since the prominent position of that port in economic China made it imperative for the Bank to have an office there to administer to the needs of our Manchurian branches, especially in their exchange operations. We established thus five branches altogether during this half-year, making the total number of our branches 33.

Deposits and Advances.—Deposits at the end of the half-year, standing at Yen 124,998,790, showed an increase of Yen 36,585,418 over the amount of the preceding half-year, and of Yen 77,465,592 over that of the corresponding half of the previous year. Bills discounted and other advances totalled Yen 154,469,576, showing an increase of Yen 31,664,801 over the figures of the preceding half-year and of Yen 88,168,105 over those of the corresponding half of the previous year. This unprecedented expansion in both deposits and advances was due to the favourable financial conditions in general, and the consequent satisfactory progress made in our business. The number of our customers with regard to deposits reached 16,272, and with regard to advances 1,191, making a total of 17,463, in which, it may be noted, are included 1,011 Chinese and 80 Russians. It has ever been our policy to comply with China's request for loans when such loans are deemed conducive to the development of her resources, since we maintain

that accommodation of this nature is most necessary for the realization of the much-talked-of China-Japanese friendship. Altogether four loans were contracted with China during the period, including the 3rd loan to the Financial Department of the Provincial Government of Mukden.

Foreign Exchange.—Foreign exchange business made conspicuous progress during the period, bills sold amounting to 19,483,130 and those bought to Yen 46,596,047. This, compared with the figures of the preceding half-year, indicates that, while the former shows a rather slight increase at Yen 4,152,000, the latter exhibits a very large expansion at Yen 26,610,000. This great preponderance on the side of bills bought was brought about as a natural sequence of the expansion of trade in our field of activity, and the corresponding extension made by the Bank in its foreign business. Foreign exchange will grow more and more our most important business as it should be from our character as a trading bank.

Note Issue.—The highest figures for notes issued during the half-year were reached on the 4th of January at Yen 67,682,656.50, while the lowest were those of the 24th of May at Yen 57,554,291.90. The amount at the close of the half-year was Yen 62,516,307.50, showing an increase of Yen 22,622,527.50 over the figures of a year ago. This expansion, needless to say, is chiefly due to the increase in the volume of transactions consequent upon the general prosperity, but the enlargement of the sphere of our note circulation, owing to the unification of gold notes in Manchuria, was also responsible for it. Under such circumstances, we had continually an issue beyond the prescribed limit of from 7 to 8 million yen for some time at the beginning of the half-year. This, however, disappeared after March when our limit of note-issue on security reserve was extended to Yen 50,000,000 by the revision of the law governing the Bank.

Treasury Business.—It has already been stated that at the beginning of the half-year the business of the Main Treasury at Dairen and sub-treasuries and detached offices belonging to it managed up to that time by the Yokohama Specie Bank were handed over to this Bank. Consequently, we now handle all the Treasury business for the Japanese Government throughout Chosen and Manchuria. In Chosen, the total cash receipts on account of the Treasury were Yen 164,168,299 and payments Yen 148,804,273, leaving a balance of Yen 15,364,026 in favour of receipts. In Manchuria, the total cash receipts amounted to Yen 22,170,151 and payments to Yen 18,196,375, leaving a balance of Yen 3,973,776, also in favor of receipts.

Collection of Gold.—The conditions of gold mining in Chosen remained practically the same as they were in the previous half-year. The gold production was constantly on the decline for the reason that, while the price of the metal was fixed, the cost of its production increased along with almost all other things, chiefly on account of the high prices of explosives and other chemicals and also of high wages. Naturally, our collection in Chosen suffered considerably, nor was that in Manchuria satisfactory owing to the high price of silver, with the result that the amount collected and sent to the Osaka Mint was only 53,779 ozs. valued at Yen 2,230,224.50, being well-nigh only half the amount for the corresponding period of last year.

General Remarks.—The expansion of the economic life of the country being such as mentioned above, we thought it necessary first of all to provide ourselves with ample funds so as to cope with the situation. With this end in view we made further calls on the unpaid capital to the amount of Yen 5,000,000, and in addition had the limit of our note-issue on security reserve largely extended by the Government. Efforts were then made to perfect our equipments, and also to adjust the money market to the existing state, as well as to help forward the industrial progress in both Chosen and Manchuria. On the other hand our activity as a trade bank kept up with increased vigor, keeping all the while a close watch over the constantly changing situation both at home and abroad and exercising the utmost caution as required by the situation. Our efforts were not in vain and we have now the pleasure of reporting another successful half-year and a net profit of Yen 1,257,685.82, which is larger than that of the preceding half-year by Yen 358,463.62.

Distribution of Profits

The profits of the Bank, after deducting expenses, providing for interest on deposits, rebate on bills, and for all bad and doubtful debts, amount to Yen 1,257,685.82, to which has to be added the balance from the previous half-year, Yen 293,022.16, making a total of Yen 1,550,707.98, which it is proposed to appropriate as follows:—

Dividend at 6 per cent. per annum on old shares ...	Yen 300,000.00
Dividend at 6 per cent. per annum on new shares ...	219,041.09
Additional Dividend at 2 per cent. per annum on old shares ...	100,000.00
Additional Dividend at 2 per cent. per annum on old shares ...	73,013.69
Reserve Fund to provide for losses ...	400,000.00
Reserve Fund to equalize dividend ...	30,000.00
Bonus and allowances ...	75,000.00
Balance carried forward to next half-year ...	353,653.20

Yen 1,550,707.98

ENGINEERING, FINANCIAL, AND INDUSTRIAL NEWS

RAILWAYS

Tramcar Scheme for Pootung.—Mr. Chen, an Anhui millionaire merchant, is preparing a scheme to introduce a tramcar service in Pootung, the Chinese town on the Whangpoo River directly opposite Shanghai, with a capital of \$10,000,000. He has noticed the increasing prosperity of the three tramcar companies in Shanghai, and in his opinion a tram service in Pootung would give a handsome return on the outlay. Mr. Chen has chosen Tungkadoo as the place suitable for the installation of the main power station and plant. Of course there will be branch lines intersecting the trunk line from Tungkadoo to Chuansha, and, wherever necessary, smaller power stations will be established, so that as many of the interior villages in Pootung as possible will be connected with the service. The capital is said to have been almost wholly subscribed. The plant and machinery is to be purchased in America. Mr. Chou, who was formerly connected with the Chinese Tramway Co. of Nantao, has been engaged as Chief Engineer of the proposed company, and he will undertake to direct the purchasing of land, the building of the tram line, and other incidental matters.

Light Railways for Mukden.—General Chang Tso-ling, the newly appointed High Commissioner of the Three Eastern Provinces, proposes to build a light railway in the city of Mukden. A light railway company has been organized under his auspices to be known as the Tung-Yi Light Railway Company and the necessary capital has been raised. The company has submitted its regulations to the Ministry of Agriculture and Commerce for approval.

Wuchang-Changsha Railway.—Because of the fighting between the North and South, the Wuchang-Changsha Railway, ever since its completion, has been solely used for the transportation of troops and military supplies. The Ministry of Communications has made great efforts to open the railway to the general public, and has succeeded in arranging to run a daily through train between Wuchang and Changsha as from September 16.

Shihpingkai-Chengchiatun Railway.—Although traffic on the Shihpingkai-Chengchiatun line was opened some time ago, the formal opening ceremony was postponed. In accordance with arrangements made by Director Yu with the Ministry of Communications, the opening ceremony was held on September 15. Five hundred Chinese and foreign guests were present on the occasion.

Tatung Branch Railway.—The Peking-Suiyuan Railway Administration announces that the Tatung Branch Railway has been completed and construction trains are scheduled to run daily, beginning on October 1. There are three stations on this branch line, namely, Tatung, Pingwang and Kouchuan. A third class passenger car and goods cars are to be attached to each construction train. The Tatung Branch Railway was built under the supervision of Mr. Chen Hsi-lin, Chief Engineer of the Peking-Suiyuan Railway.

Peking-Suiyuan Line.—The operating revenues of the Peking-Suiyuan Line for July this year compared with the corresponding period of the previous year again show a remarkable increase. Traffic on this Line increases steadily. The following table shows comparative figures:

	Revenue for July.	Revenue for period January to July.
1918	270,181	2,401,483
1917	185,771	1,967,320
Increase	84,410	434,163

Shanghai Tramways.—The following is the Traffic Return of the Shanghai Tramways (Foreign Settlement) for the month of August, 1918, and for eight months ended 31st August, 1918, with figures for the corresponding periods last year:—

	Aug., 1918.
Gross Receipts...	\$143,968.56
Loss by currency depreciation	33,487.85

Effective Receipts ... Mex. \$110,480.71

Percentage of loss by currency depreciation ...	24.44
Car Miles run ...	353,820
Passengers Carried ...	6,622,983

	Aug., 1917.
Gross Receipts...	\$130,421.08
Loss by currency depreciation	29,087.05

Effective Receipts ... Mex. \$101,334.03

Percentage of loss by currency depreciation ...	23.58
Car Miles run ...	332,528
Passengers Carried ...	6,040,171

	8 Months ended 31st Aug., 1918.
Gross Receipts ...	\$1,101,441.51
Loss by currency depreciation	246,664.98

Effective Receipts ... Mex. \$854,776.53

Percentage of loss by currency depreciation ...	23.68
Car Miles run ...	2,715,059
Passengers Carried ...	50,240,851

	8 Months ended 31st Aug., 1918.
Gross Receipts ...	\$1,048,762.66
Loss by currency depreciation	233,403.01

Effective Receipts ... Mex. \$815,359.65

Percentage of loss by currency depreciation ...	23.57
Car Miles run ...	2,696,116
Passengers Carried ...	47,618,085

MINING

Mining in South Manchuria.—New mining activities in South Manchuria stated to be quite noteworthy on account of their scale and the output. Near the old battlefield of Tashih-chiao a big magnesite vein has been struck by Japanese prospectors and for its exploitation a company with a capital of 3,000,000 is being floated.

In this new undertaking many big business firms are interested and with their backing the new company can start a mill near Tokyo and a factory at Dairen where magnesite worked can be employed in turning out Portland cement, fire-proof brick, and other articles. This vein is one of the best in the world in respect of the quality and quantity of ore obtained.

The enterprise to work the iron mine at Anshantien is being actively pushed on. A smelting mill is now under construction and until October this year at least one furnace will be ready for operation. Another iron vein covering 15 miles is located near Anshantien. The ore prospected at this new mine has contained a small percentage of pure iron so far but it is hoped that on lower strata better ore containing above 60 per cent. of iron will be found.

Korean Graphite Refinery.—It has been decided to erect a graphite refinery at Pyongyang, and the building will be commenced before long. The firm responsible for this undertaking has been engaged in mining for graphite at Teishu. It is said that the work will be on a small scale at first, but that the future of the industry is promising.

Copper near Paotingfu.—The Magistrate of Wan-so-hsien, Paoting, reports to the Ministry of Agriculture that traces of copper and lead ores have been found at a place in his district called Hanyangpo. The Ministry of Agriculture has appointed a technical expert of the mining department to proceed to Hanyangpo and do prospecting work.

Kailan Mining Administration.—Recent weekly total output and sales from the Administration's mines were as follows:—

	Output (tons)	Sales (tons)
Week ending Aug. 24 ...	60,988	53,230
" Aug. 31 ...	59,523	58,243
" Sept. 7 ...	59,663	52,166
" Sept. 14 ...	66,552	53,600

Seoul Mining Co.—During the month of August there was milled on the Suan Concession a total of 20,550 tons of ore, from which was produced a gross recovery of Yen 290,626.82.

Encouraging prospects have been met with at the granite-limestone contact in the lower workings of the South mine at Tulumchung. The new orebody, on No. 6 Level; the discovery of which was mentioned last month, continues to develop satisfactorily.

Mining Permits.—The Ministry of Agriculture and Commerce, Peking, has just published its report of mining permits issued during the month of August last. It shows that the Ministry issued prospecting and developing permits to thirty-one mining companies. Among the mines, there are 1 gold mine (at Kuantien-hsien, Fengtien); 3 iron mines (at Tsinglung Mountain, Nanking, Laiyang, Hunan, Yung-sin-hsien, Kiangsi); 2 asbestos mines (at Tsinghsin-hsien and Lai-yuan, Chihli); 3 manganese mines (at Funing, Chihli, Siangtan, Hunan, Yuhhsien, Hunan); 1 pewter mine (at

Kianghua, Hunan): 2 sulphur mines (at Anhua, Hunan, Tzuli, Hunan): 1 lead mine (at Yuan-jen-hsien, Fengtien): 4 soapstone mines, 2 porcelain clay mines, 12 coal mines.

Mines in Manchuria.—The Provincial Mining Commissioner of Manchuria has submitted a detailed report to the Ministry of Agriculture describing the conditions of the metal mines in the provinces of Fengtien and Kirin. Minister Tien Wen-lieh has sent Mr. Yu Huai-tsing, Mining Engineer, to prospect the undeveloped mines of the two provinces, and the provincial commissioner is instructed to co-operate with Mr. Yu in the work. Mr. Yu will pay special attention to coal, iron and gold mines in Manchuria and will spend three months there. On returning to Peking next December, he will make suggestions regarding the ways and means of developing the mines.

Serious Coal Outlook in Japan.—The coal question is becoming serious for industrial circles in Japan on the approach of autumn as in the coming buying season every indication points to a further increase in the price of coal. For one, the yield of coal in Kyushu is apprehended to fall off for various reasons including miners' riots and strikes, says the "Japan Advertiser."

According to the official report from the Mining Bureau the total yield for the first half of the year was 12,117,933 French tons and in comparison with the corresponding period of last year it was only a small increase of 5.1 per cent. whereas the consumption in Japan is increasing at the rate of 20 per cent. a year. The rate of increase has been particularly small in recent months. June's output was only an increase of 2.4 per cent.

In Osaka, already, prices have begun to rise on the strength of this apprehension. According to a report lump and slack have advanced all round by Y.10 to Y.18 per 10,000 kin.

SHIPPING

American Shipbuilding in Chinese Yard.—The officials of the Kiangnan Dock, near Shanghai, are making preparations for the construction of four merchantmen for the American Government. Warehouses are being pulled down and additional land has been purchased to accommodate the length of the vessels, which will be about 400 feet.

Japan Builds First Ship for U.S.A.—Japan has contributed its first Japanese built steel vessel to the American merchant marine. This is one of forty-five steel vessels which Japan has undertaken to construct in return for an allocation of steel.

The initial delivery from the Eastern Empire, which is now under the American flag, is the Eastern Sun, a cargo carrier of 9,066 deadweight tons, built by the Kawasaki Dockyard Company, of Kobe, Japan.

The forty-five vessels to be built in Japan for the United States are in addition to the twenty-three steel vessels chartered from Japan by the Shipping Board, of which number twenty-two, totalling about 145,000 tons, have been delivered on the Pacific coast.

New Shipping Company.—A new steamship company called the Taisho Shosen Company was organized recently with a capital of Y.500,000 by Messrs. I. Machida, and K. Watanabe and other businessmen connected with the Uruga Dockyard Company and Suzuki and Company of Kobe.

New Socony Steamer.—The latest addition to the fleet belonging to the Standard Oil Co.,

the *Mai Nan*, has successfully completed her trial trips. The *Mei Nan*, first of her kind to be built in Shanghai, is an oil burner and was designed and built by the Kiangnan Dock and Engineering Works for her present owners.

The vessel's principal dimensions are length 144-ft., beam 27-ft., with a 8-ft. 9-in. draft. She is equipped with a 450 horse-power triple-expansion reciprocating engine which on her trial drove her at a rate of 10½ knots. The steamer is furnished by water tube boiler of the type which has been adopted by the United States Emergency Fleet Corporation for all standardized vessels constructed to their order.

"Shanghai No. 2" Trial Trip.—The new 1,200-ton composite ship, *Shanghai No. 2*, built by the Kiangnan Dock and Engineering Co. to the order of the China Coasting Co. had owners' trial trip, on August 28th, returning to the dock at 8.30 p.m. the same day. In every way she met the requirements of her purchasers and pleased the designers and builders.

The *Shanghai No. 2* is a most modern freighter whose measurements are as follows: length 203-ft., beam 29-ft. with a draft of about 11-ft. She is engined by a triple-expansion engine of 600 horse power and is equipped with a U.S. Standardized water tube boiler.

The vessel will be placed on the Hongkong-Singapore run by the agents, Messrs. Moller & Co., who will handle her from their Hongkong office.

Steamship Service between Japan and Korea.—A new line, the Chosen Yusen Kaisha, has been granted a subsidy for a steamship line between Tsuruga, in Western Japan, and Chongjin in Northeast Korea, calling at Gensan and Songjin. Another company, the Kumiai Kisen Kaisha, of Kobe, is competing on the same line without subsidy. As freight by this route for places in Central and Northern Japan (including Kobe and Osaka) is cheaper than by the Fusan-Shimonoseki route, it is believed that possibly 80 per cent. of the trade formerly handled on the Fusan-Shimonoseki route will be diverted to the new lines.

New Vessel in China Trade.—The Volunteer, an ocean steamer capable of carrying 16,000 tons of cargo, operated for the United States Shipping Board by the Pacific Mail Steamship Company, is due in Shanghai about October 18.

Philippines Trade.—Five of the wooden steamers which are being constructed along the United States Pacific coast have been assigned by the Federal Shipping Board to trade in Philippine waters. Two of these vessels are to be used in carrying coal from Japan to Manila and the remainder in interisland trade. These vessels, upon their operation, will be placed under the supervision of the Governor General.

China Building Gunboats.—Sometime ago Admiral Liu Kuan-hsiung, the Minister of the Navy, proposed at a Cabinet meeting that a new coastal defence squadron should be organized and thirty shallow-draught gunboats should be built to form the new squadron. The measure was passed by the Cabinet, and the Ministry of Navy wired instructions to the Foochow Dockyard to build these gunboats. The Foochow Dockyard now reports that the first gunboat has been completed. The Minister of Navy christened the gunboat the *Haiko*. The launching ceremony was performed on September 7.

O.S.K. Ship to South Sea.—The Osaka Shosen Kwaisha has employed so far on its

line to Batavia, Sourabaya and other South Sea countries, the *Peking Maru*, the *Koso (Kiangsu) Maru* and the *Sekko (Chekiang) Maru*. But since July passengers to South Sea ports have increased in numbers, and the Company has decided to shift the *Peking Maru* to the European route, replacing her with the *Toen Maru* in the Formosan route. The *Toen Maru* was expected to sail for the South on September 3rd from Kobe.

New Steamer Service.—The Mitsubishi Trading Company, which opened a direct steamship service in July between Osaka and Kobe and Hankow in China has also decided to open new services to South China and South Sea countries, as follow: Kobe-Singapore Line (main line), the *Taiye Maru* will sail from Kobe via Moji, Keelung, Hongkong and Manila, to Singapore, and will run once in two months. Singapore-Amoy Line (a branch line), the *Daiichi Tamon Maru* in the service; route, Singapore, Bangkok, Saigon, Haiphong, Hongkong, Swatow, Amoy; sailings once in two months. Singapore-Borneo Line (second branch line), the *Katsura Maru* in the service; route, Singapore, Sarauqa, Lapman, Cezelton, Cudad, Sandakan, Tawao; sailings once a month. Keelung-Hongkong-Manila Line (third branch line), the *Rokuro Maru* in the service; the route, Keelung, Amoy, Swatow, Hongkong, Canton, Manila; sailings once a month.

Japanese Ships Supplied to England.—Since the outbreak of the European War until the Ship Control Act was promulgated in Japan, the number of vessels contracted for between the British Government and the Japanese ship builders to be constructed in Japanese yards, on condition that steel materials and other materials for parts shall be supplied through the efforts of the British Government, was 26 in all, with a total tonnage of about 250,000 tons. The ship yards which have undertaken the construction of these vessels were the Kawasaki, the Osaka Iron Works, the Asano, the Harima and the Mitsubishi dockyards. The ships already built and sold totalled about 20,000 tons. As for four large sized vessels contracted for about the time the Ship Control Act was promulgated, that is in September, last year, the work is to be started after the materials have arrived this year.

More Japanese Ships Wanted by America.—The term of the agreement made in May, this year, between the Japanese shipping concerns and shipbuilders on the one hand and the American Government on the other, by which 22 Japanese vessels of 150,000 tons are to be furnished to the American Government, will expire in November, as the term is to run for six months. It is understood that the American Government desires to have the agreement renewed for six months longer. The price of charterage according to the present agreement is Yen 19 per ton on the average, with an understanding that the Japanese Government will indemnify the owners of tramp steamers to the extent of Yen 7.50 per ton. The steamers agreed upon will be delivered in due time. The Japanese shipping men are understood to object to the renewal of the agreement on the present conditions, because the current rate of charterage has considerably risen. The American Government's proposal for renewal of the agreement is expected to come during October.

Tientsin and Tungchow Shipping Route.—Some Tungchow merchants have approached the Ministry of Communications with a request for permission to start a steam launch service between Tientsin and Tungchow by the Grand

Canal. Hitherto the authorities have not issued permits for launches on this route because this section of the Grand Canal is considered to be too shallow for steam navigation. Although there is railway connection between the two cities, the route by land is circuitous and it is calculated that the water route would give a cheaper rate for freight.

Launch Service Registration.—August has been a busy month for the Steamship Registration Bureau of the Chinese Ministry of Communications. During that month thirty-five different steamship and steam launch companies sent in applications for permits to run new steamers and launches. The biggest steamer registered during the month bore the name of *Ning-hsing*, 2,006 tons, bought by the Ning-hsing Steam Navigation Company of Shanghai at the price of \$550,000, and was scheduled to ply between Shanghai and Tientsin, also between Shanghai and Hongkong. Most of the companies applied for permits to run steam launch services on inland water routes. It is interesting to note that several new companies have been started in Manchuria running steam launch services between the Sungari River (Sungari), Nengkiang, Harbin, Tungkiang, Kirin, Lungkiang, Muho, Usuri, Antung, Tatungkow, etc.

Ships for Steel.—Of the 12 vessels gross tonnage 90,150 tons, which are to be furnished America by Japanese shipping concerns, 4 representing 36,000 tons by the Kawasaki Dockyard Company, 3 representing 22,550 tons by the Nippon Yusen Kaisha, 3 representing 22,230 tons by Suzuki Company, 1 representing 11,500 tons by the Asano Dockyard Company, and 1 representing 6,800 tons by the Uraga Dock Company have been under construction up to September. Adding the *America Maru*, built by the Uraga Dockyard Company, which has already been transferred to America, the number already built or under construction was 9 in the beginning of September. The remaining 3 of the number were also to be completed during September. The price will be settled at \$225 (American) per ton for September delivery, which is \$15 cheaper than the price in August. Two-thirds of the steel material arrived early in September and the rest was expected to arrive before the end of the month.

INDUSTRY

Rubber Goods Manufactory in Yokohama.—Two well-known firms, one American and the other Japanese, have established a joint company in Yokohama for the manufacture and sale of rubber goods in Japan, as well as in other Far Eastern countries. The Japanese company, it is stated, owns rubber plantations in the Federated Malay States.

The new company will have a capital of about £250,000. Plans are already in hand for the erection of four-storied factory buildings on the Yokohama site which has been acquired. Japanese engineers representing the new company are in the United States for the purpose of purchasing the most up-to-date machinery, and are studying the best lay-out for the plant with the American company's engineers.

Philippines Sugar Mill.—Inchausti & Company have under way the construction of a sugar mill at La Carlota, Occidental Negros, which will cost 1,500,000 pesos. The mill will have capacity for grinding 1,000 tons of cane a day, and will be ready for the 1919-1920 crop. An order for the machinery has been placed in Honolulu.

Bean Oil Products.—The Dairen company formed in 1916 for developing a new process of hardening bean oil by combining it with hydrogen paid a dividend of 8 per cent. on the first term's working. In this period the company consumed 273 tons of bean oil and produced 232 tons of stearine, about 10½ tons of pure glycerine, and 3½ tons of crude glycerine, while the output of olein amounted to about 27½ tons.

New Electrical Works in Japan.—The Japanese Department of Communications reports that during the first half of this year twelve electric plants started actual operation in Japan and the combined output of power by them amounted to 361 kilowatts. The total amount of capital invested in them was ¥433,500.

Egg-Powder Factory at Yencheng.—The Tuck Wo Egg Produce Factory (a Chinese firm) was completed at Yencheng, Honan, in April, and the manufacture of desiccated eggs started. The company will manufacture whole-egg powder, albumen powder, and yolk powder. The plant has a capacity of from 1,500 to 2,000 pounds of yolk per day of 10 hours. All the machinery and the plant is American excepting the dynamo and engines. The spray system is used in desiccating the egg. A galvanized-steel tin chamber emptying automatically is used, upon which the eggs are dried, and it is claimed that no zinc oxide, preservatives, or chemicals are used in the preparation of the egg. The machinery cost approximately \$15,000 gold, while the plant, including the buildings and ground, cost approximately \$150,000 gold.

This plant is located in one of the best egg-producing sections in China. The engineer states that 51 yolk will manufacture 1 pound of powder. He states that the cost of eggs is about 134 per Mexican dollar (\$0.74 gold). The eggs produced in this section can by no means be utilized by a single plant, and it is said that there will be opportunities for the development of this industry in that locality without any attempt to increase the present egg production.

Paper Mill for Sakhalin.—The Maoka Paper Milling Plant in Maoka (formerly Mauka), Karafuto (Sakhalin), has completed the work of laying foundations. During October, 2 of the 80-inch machines will be set. The pulp manufacturing machines are expected to arrive from Yokohama shortly, so that the plant will be in working order next spring at the latest. It is expected that about 60,000 pounds of high grade printing and other kinds of paper will be manufactured every month. The company has been planning to raise about Yen 3,500,000 by collecting unpaid capital or by issuing bonds to meet the necessary expenses for establishing the plant in order.

New Companies in Osaka.—During the first half of this year there have been 490 new companies established in Osaka City, with an aggregate capital of Yen 146,000,000, of which Yen 74,000,000 has been paid up. More than 20 different kinds of enterprises are included in the number. In the corresponding period of 1916 the number was 427, with the aggregate capital amounting to Yen 42,587,000, and in 1917 the number was 578, with the capital of Yen 198,420,000.

Of the number of companies established this year, 221 were for dealing in general merchandise, 59 for miscellaneous undertakings, 42 for machinery and tool manufacturing, 39 for various manufacturing industries, 22 for mining and smelting works, 21 for metal working industry, 13 for transportation ser-

vice, 11 for textile industry, 11 for foodstuff manufacturing, and the rest for miscellaneous undertakings.

Raw Cotton for Japanese Spinners.—Altogether 1,007,416 bales of raw cotton were consumed by the Japanese cotton spinning companies during the first half of 1918, according to an investigation made by the Greater Japan Cotton Spinners' Association.

The following are the details of different kinds of raw cotton thus consumed by the Japanese cotton companies:—Indian 626,383; American 258,091; Chinese 74,898; Egyptian 10,111; Annam and Saigon 4,785; Korean 21,555; others 11,593.

There was a decrease of 116,000 bales of Indian cotton imported compared with the corresponding period of last year. This was due to the bad crop in India. This decrease was partly made up by the increase of importation from America, China and other countries, especially from China, whose products had to be used as substitutes. All told, there has been a net decrease of 48,000 bales compared with the corresponding period of last year.

It is anticipated by the Association that the decrease in the consumption of Indian cotton will become greater in the latter half of this year and that more of American, Chinese and other products will be used as substitutes.

Sale of Kiangsu Wool Factory.—The Jih Hui Wool Factory of Kiangsu, which is a joint government and mercantile concern, has suffered big losses during recent years and the shareholders resolved at a General Meeting to discontinue the business and to sell the factory. The Government decided that the sale of the factory should be made under the supervision of the local authorities. Governor Chi Yao-lin, of Kiangsu, has appointed a deputy to Shanghai to supervise the sale of the factory jointly with the Tao-yin of Shanghai. Governor Chi also asked the Central Government to appoint a deputy to Shanghai for the same purpose.

Chinese Yarn Sold Abroad.—The cotton mills in Shanghai, Tungchow, Kiangyin, Soochow, Wusieh and Hangchow have usually produced yarn mostly known as 16s., and the next two favorable kinds have been the 20s. and 14s. The coarser stuffs, known as the 12s. and 10s., have usually been supplied by mills in India, the annual quantity amounting to high figures. But owing to the shortage of the cotton crop in India recently as well as the effect of the European war, these brands of yarn are no longer exported from that country. The demands in the islands of the South Sea and in Spain for these yarns can no longer be met. These markets are now turning to China for supplies and already over 20,000 bales of Chinese yarn have been bought and shipped away on their account. As the finer staple yarn is not suitable for consumption in these places, many Chinese mills, about 40 per cent., have confined their productions to yarn of the 10s. and 12s.

More Hydro-electric Works in Japan.—During July the number of permits issued by the Japanese Government to use water power in Japan was 15, according to the Department of Communications of that country, the amount of electric power to be generated being estimated at 26,806 horse-power. These permits were scattered in 12 different prefectures, where the water power needed is to be secured from local rivers.

Cotton Weaving Plants for Formosa.

A plan is afoot among Messrs. Toyoji Wada, president of the Fuji Gas Spinning Company of Japan and also of the recently organized Japan-China Cotton Spinning and Weaving Company of Shanghai, Matazo Kita of the Nippon Menkwa Kaisha, Suketaro Kawasaki, Juntaro Yamaoka, Ryutaro Hanta, Yasujiro Kajima, Raita Fujiyama, and others, to establish a cotton spinning and weaving company in Formosa to be capitalized at Yen 3,000,000. Mr. Kita will become the president, according to the tentative agreement.

FINANCIAL

Paid-up Capital Increased in Japan.—According to the investigation of the Hypothec Bank of Japan the amount of paid-up capital invested in national bonds during the month of August was Y.55,000,000, company bonds Y.9,506,000, shares Y.45,755,000 in round figures; totalling Y.110,261,851. The grand total since January amounted to Y.691,802,251, which compared with the corresponding period of last year was an increase of Y.48,299,000. At the end of August, it was expected that the total investment during September would amount to Y.69,391,900.

New Enterprises in Japan.—According to the investigation of the Mitsui Bank, capital invested in new and extension enterprises during August totalled Y.189,406,000, which was Y.215,550,000 less than July. But a grand total from January to August 30 was Y.2,165,000,000 in round figure, an increase of Y.891,560,000 over the corresponding period of last year.

Japanese Specie Holding.—On August 15th specie held by the Japanese Government and the Bank of Japan showed an increase of a million yen over the end of July. The figures are as follows:

Specie held by the Government...	Y.508,000,000
Specie held by the Bank of Japan	737,000,000
Total.....	Y.1,245,000,000

Of this amount Yen 456,000,000 was held at home and Yen 789,000,000 was held abroad.

Bank of Japan Loaning Freely.—On August 30 the loans made by the Bank of Japan totalled Yen 462,785,000, and the convertible notes issued Yen 843,908,000. These were record-breaking figures for the bank. Of the amount of loans, Yen 368,467,725, that is about 80 per cent., was for capital exchange transactions. The total loans within one week from August 24 to August 30 amounted to Yen 102,974,073, which represented an increase of notes of the bank by that much in that one week.

Chinchao Agricultural Bank.—A private agricultural and industrial bank for Peking will soon be established which will be known as the Chin-chao Agricultural bank. A Peking capitalist, Mr. Wang Hsi-chun, is now organizing the bank with the assistance of Peking gentry and merchants. A petition for the establishment of the bank has been submitted to the Metropolitan Governor, the Ministry of Finance and the Ministry of Agriculture and Commerce. A shareholders' meeting will be held when arrangements are completed and the authorities will be asked to examine the capital of the bank.

Japan's Customs Receipts Double of the Budget.—The Budgetary estimate for Japan's

customs receipts for the present fiscal year, April to March, next year, was fixed at Yen 35,238,000 by the Finance Department. The actual amount of receipts up to the end of July was Yen 19,608,000, an enormous increase in excess of the estimate, as stated by an official of the Finance Department. He further said that at the rate which obtained up to the end of July, the receipts up to the end of March, next year, that is for the whole fiscal year, will amount to a total of Yen 68,825,000, which will mean an excess of Yen 23,587,000 over the budgetary figures. At that rate, the budgetary estimate of customs receipts for 1919-1920 will not be below Yen 50,000,000, the official said.

Japanese Government Bonds for Yen 220,000,000 more.—The bonds which the Japanese Government is expected to issue during the present fiscal year, April to March, according to the plans which have already been approved, are divided as follows: (1) Yen 51,400,000 for industrial enterprises; (2) Yen 54,000,000 for extraordinary war expenditures; (3) Yen 300,000,000 for extraordinary treasury certificates; totalling Yen 405,400,000. Of these, those which have already been issued up to a recent date this year were of the issue mentioned as No. 1, of which a small portion was borrowed from other accounts of the Government; and Yen 180,000 out of No. 3. The balance yet issuable will be Yen 120,000,000 of extraordinary treasury certificates and Yen 54,000,000 of No. 2 issue, totalling Yen 174,000,000. The remaining amount will not be sufficient to meet the needs for the balance of the present fiscal year up to March, next year, for exchange purposes and for preventing the inflation of currency. Besides, there is Yen 50,000,000 of Finance Department certificates to be issued within one year, which has not been included in the foregoing bond policy. Thus, the Japanese Government has authority to issue hereafter bonds amounting to Yen 224,000,000.

MISCELLANEOUS

Japanese Tea Competition.—A large percentage of the Chinese tea trade is done with America. Since the European War, Japanese tea has come into fierce competition with Chinese tea in respect to the export trade to America. In 1917, the Japanese exported 54,418,000 catties of tea to America as against 19,810,400 catties exported by Chinese merchants.

Motor-Car Subsidies in Japan.—At a recent session of the Japanese Diet a new law was passed entitled the "Military Motor Vehicle Subsidy Law," which provides for the granting of subsidies in respect of motor vehicles that are suitable for military use. An Imperial Ordinance published in the Official Gazette of 23rd April notifies that the Law would come into force as from 1st May.

The salient features of the regulations, forwarded by H. M. Ambassador at Tokio, are as follow:—

1. Subsidies are to be granted to manufacturers and owners of motor vehicles suitable for military use which have a carrying capacity of not less than one ton (Arts. 1 and 3).

2. Manufacturers and owners must be Japanese subjects, or companies composed solely of Japanese subjects, and their factories and cars must be in the Japanese Empire (Art. 2).

3. Subsidies shall not exceed (a) Y.2,000 as a "manufacturing" subsidy to manufacturers for each vehicle which they make, with an "additional" Y.500 if the manufacturer uses the vehicle himself (b) Y.1,000 as a "purchasing"

subsidy to owners for each new motor vehicle which they purchase from a manufacturer, and (c) Y.300 per annum as a "maintenance" subsidy to owners for each motor vehicle they use on which an "additional" or "purchasing" subsidy has been granted (Arts. 4-6).

4. Subsidised motor vehicles may be requisitioned at any time, and suitable compensation will be paid to the owner (Art. 8).

5. Subsidised motor vehicles may not be exported, transferred, or hired to foreigners, or given as security for loans (Art. 9).

6. Owners of new motor vehicles of foreign manufacture shall, for the present, be eligible for a subsidy not exceeding Y.1,000 (Supplementary Regulations), and also apparently for the annual subsidy referred to in 3 (c).

Peking Telephones.—The development of the Peking Telephone service has been unusually rapid. In a few years an extensive system has been built up. In 1916 there were two exchange divisions, the East and the South divisions, and a third division was put up in 1917 called the West Division. The Telephone Administration is now planning to add another division to be called the North Division. The proposed building for this new division will be situated at the Antingmen Street, in the north part of Peking. At present telephone users have reached the number of 7,000.

IRON AND STEEL

Iron and Steel in Korea.—To encourage the iron industry in Korea, the Government exempts from duty imports of coal, machinery and implements for the use of iron foundries. The total quantity of iron ore now obtained in Korea is put at 200,000 tons a year, and developments are under way. The new Mitsubishi Foundry, which started operations in the summer of 1918, will produce 100,000 tons of pig iron annually, 50,000 tons of which will be made into steel.

Steel Works for Tokyo Fu.—A plan is afoot to establish a steel works plant, known as the Imperial Steel Works Company, with a capital of several million yen. Messrs. Kyohei Magoshi, Kintaro Hattori, Kinnosuke Wakao, Tetsunosuke Yoshimura and Shintoku Yasojima are interested in the plan for self-supplying of steel materials at home in Japan. This company when established will be a unique one in Tokyo Fu, where so far steel materials used have been purchased from outside at a high cost for transportation. The promoters aim at establishing an ideal plant, such as would rank with the various plants in Sheffield, England, which are known throughout the world for cutlery. Pig iron will not be used as raw material in the proposed plant. Material will be secured from waste iron, etc.

New Steel Works.—A steel works company to be known as Iwabuchi Seikojo was organized with a capital of Y.1,500,000 at a meeting held at the Railway Club, Marunouchi, Tokyo.

Nagasaki Iron Manufacturing Company.—The Nagasaki Iron Manufacturing Company promoted by Mr. Tatsujiro Hashimoto, of Nagasaki, Mr. Kizo Hashimoto, of Kobe, and other business men with a capital of Y.5,000,000 has been organized. Mr. T. Hashimoto was elected president of the new concern.

Hokuroku Pig Iron Company Organized.—The Hokuroku Pig Iron Company promoted with a capital of Y.1,000,000 was completely organized at its organizing meeting held on August 17. Baron Seiichi Nishimura was appointed adviser. The company will hurry with the estab-

lishment of a mill in Tokyo so as to be able to market its products toward the close of this year.

Japan Steel Manufacturing Co.—The Nippon Seiko-jo (the Japan Steel Manufacturing Co.) held an ordinary general meeting of shareholders on August 17, when the following account for the current term was approved:

	Yen
Gross profit for the term	3,021,153
Paid as redemption for property.....	1,000,000
Net profit	2,021,153
Brought over from the previous term	445,453
Total	2,466,606
The above amount was disposed of as follows:	
As legal reserve	110,000
As special reserve	500,000
As retiring allowance to officers	70,000
As subsidy to workers' fund	30,000
As bonus to officers	100,000
As dividends (15% per annum)	1,125,000
To be carried over to next account...	531,605

Rise of Pig Iron in Japan.—Because of lack of supply of goods, pig iron which had been quoted at Yen 480 per ton up to the middle of August rose during the middle week of that month to Yen 530, a difference of Yen 50. This was in spite of the much expected arrival of pig iron from the Mitsubishi's Kenjiho Foundry in Korea. There has been a wide margin between prices quoted in eastern parts of Japan and the western parts, sometimes even as much as Yen 20 to Yen 30. Futures, that is for next year, have been sold at Yen 430 or more, so that it is generally understood that the price of pigs will remain high next year.

Jehol Iron Mines.—Mr. Liang Shih-yi has written to the Ministry of Agriculture requesting permission to develop the iron mines in the district of Jehol. There are two iron mines in the district, one at a place called Chaoyang, and the other at Tiao-yu-tai, or Fisherman's Platform. Mr. Tien Wen-lieh, the Minister of Agriculture, has appointed a technical expert to go to Jehol to make investigations, and if there are no complications, and if the mines are worth developing, the permit will be granted to Mr. Liang Shih-yi.

COMMERCE

Decrease of Japan's Russian Trade.—The entire amount of exports of Japan to Russia or her possessions from January to the end of July, according to the investigation of the Russo-Japanese Association, was Yen 11,343,183. Compared with the corresponding period of last year, there was a decrease of Yen 50,270,636. The principal articles exported were salt, apples, medicines, chemicals, cotton flannel, cotton cloth, woollen cloth, cotton underwears, leather goods, metals, iron manufactures, onions, soy, fancy cotton fabrics, muslin and sheetings, other cotton goods, shoes, buttons, brass wares, metal works, miscellaneous articles, re-exported articles, etc.

New Japanese Undertaking in Siberia.—It was reported that the representatives of the China-Japan Industrial Development Company, the Oriental Colonization Society, the Bank of Chosen, the Yokohama Specie Bank and the South Manchuria Railway Company have conferred with the object in view to making investments for industrial undertakings in Siberia. It was understood that a company to be called the Siberian Development Company (Siberia Kogyo Kwaisha), with a capital of Yen 30,000,000 will be organized. The Japanese Government was also reported to have

given its approval of the plan, although no official confirmation was made public.

Japan's Siberian Enterprises.—It is reported in Japan that Mr. Shoda, the Finance Minister, has been conferring with representatives of semi-official banks and prominent business men with regard to Japanese enterprises in Siberia. The proposal under consideration is believed to be the formation of a body along similar lines to the Oriental Enterprise Co. which has been established for the purpose of promoting Japanese enterprises in China.

It is said that the leading spirit in the proposed Siberian enterprise is the Bank of Korea, supported by other semi-official banks, the Oriental Enterprise Co. and some prominent business men.

The proposed body, says the "Japan Chronicle," aims at promoting various enterprises in Siberia, and is separate from the syndicate to be established with regard to the proposal to accord economic assistance to Siberia for the purpose of furnishing supplies of articles which are now very scarce. If, however, the Temporary Commission on Economic Assistance to Siberia decides to establish an organ for promoting enterprises in Siberia, it is believed that this and the above proposal by semi-official banks will be combined.

HARBORS, DOCKYARDS, ETC.

Chefoo Harbor.—The construction of the breakwater and mole at Chefoo is progressing favorably, in spite of the number of influences that have given the work serious setbacks, such as the storm in August, 1917. The whole foundation of the breakwater has been laid, and masonry is rapidly being put in place. The masonry of the south head has been sufficiently advanced to allow for the building of a light tower. The storm mentioned destroyed 1,500 feet of the mole to a short distance below water level, but work on an improved design which will lessen the danger of damage by storms in future is now under way.

Osaka Port Repairing.—For repairing and improving the port of Osaka, Yen 8,800,000 is to be expended. A request made on November 8, 1917, through the Governor of Osaka Prefecture to the Imperial Government for permission to improve the port and to issue bonds for the amount needed was granted on September 13 by the Ministers of Home Affairs and of Finance. Work begins shortly. A work shop will be established immediately where necessary machinery and implements will be manufactured and at the same time the necessary materials will be purchased and the dredging boats repaired. The present time being unfavorable for issuing long term bonds, the money needed immediately will be secured by short term bonds or by borrowing for the time being. For the present year, the work will be confined to preparations, the main improvement work commencing from next year.

CONSTRUCTION WORK

Peking Markets.—The Ministry of Agriculture and Commerce is inviting tenders for the erection of the Industrial Bazaar Building which is to be situated outside of the Chienmen Gate, Peking. The construction work will be started in October. This Industrial Bazaar, the property of the Ministry of Agriculture and Commerce, has been a very flourishing market-place, and several similar buildings have been put up in the city in

recent years. The Bazaar was twice burnt out by accident, the first time in 1910, the second time in April last. It was adequately covered by insurance. The erection of the new building will be superintended by a foreign architect.

Plague Prevention Headquarters.—The Chinese Ministry of Interior is now busily engaged organizing the Central Plague Prevention Bureau, and hopes that all equipment will be completed before December so as to be ready for any emergency. The Bureau is set up in the Temple of Heaven. Several old style buildings are repaired and furnished for the use of the Bureau. The Ministry has engaged an architect to design the plans for several new buildings which will be built within the year. The Ministry has set aside \$100,000 for the use of the Bureau, and a sum of \$50,000 has been appropriated for the erection of new buildings. The balance of the fund will be used for the purchase of instruments and medicines. The main office of the Bureau is situated in the Shen-Yo-Shu or the Divine Music Hall of the Temple of Heaven.

Public Market in Tokyo.—In view of the recent rise of prices, Tokyo city is planning to establish public market places in several sections of the city. A central market of permanent nature would cost about Yen 500,000, so that its construction will be deferred until later on. For the present, about 50 temporary structures in barracks style are to be established in 15 wards of the city, supplemented with open-air markets, where vegetables, salt, fuel and other daily necessities are to be sold at prices agreed upon after consultation with private producers and retailers in the present markets. The public markets are to be open for about two months. The plan was conceived in order to replace the work of selling rice at a reduced price which will be discontinued.

Peking-Tungchow Road.—The new road from Peking to Tungchow was completed and formally inspected by Mr. Hsiung Hsi-ling, director of Flood Relief in Chihli Province, accompanied by other Chinese officials and the American Charge d'Affairs, early in September. The road was built with the labor of flood refugees, the cost being borne by the Chinese Government and the American Red Cross equally. The ancient Imperial Highway along the course was torn up and part of its material used in building a macadamized strip 15 feet wide with stone causeways on either side. The builders look for the example to encourage further activity in roadmaking.

Improving Kalgan.—General Tien Chung-yu, Lieutenant General of Chahar, has written to the Peking Government suggesting that Kalgan city should be improved, and that it would be advisable to create a business community to foster the business activities of Kalgan. General Tien has now designated a large tract of uncultivated land at Tungchiao, or Brass Bridge of Kalgan, covering several square miles for the purpose of building up a new business community, and a prominent merchant of Kalgan named Wang is taking a leading part in this enterprise. The building of houses and market places will soon begin.

Roadbuilding near Shanghai.—Work has been temporarily suspended on the road from the outskirts of the foreign settlement of Shanghai to the Woosung forts. It appears that no appropriation was made by the Government for the purchase of the right of way, and the landowners objected to handing over a part of their land without remuneration under the ancient Chinese custom.